Refine Search

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(17 AND COMPOSITION).PGPB,USPT,USOC,EPAB,JPAB,DWPI.	117
(L17 AND COMPOSITION).PGPB,USPT,USOC,EPAB,JPAB,DWPI.	117

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Search History

DATE: Thursday, August 02, 2007 **Purge Queries** Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=AND			
L18	L17 and composition	117	L18
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L4	L3 and kroll-j.in.	0	L4
L3	pleuropneumoniae	732	L3
L2	l1 and pleuropneumoniae	0	L2
L1	kroll-j.in.	99	L1

END OF SEARCH HISTORY

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?  s pleuropneumoniae
S1      11013   S PLEUROPNEUMONIAE

?
?  s s1 and virulence
        11013   S1
       368746   VIRULENCE
S2       1364   S S1 AND VIRULENCE

?
?  s s2 and (mutant or mutation or muta?)
Processing
Processing
         1364   S2
      1409116   MUTANT
      1893065   MUTATION
      4365344   MUTA?
S3        451   S S2 AND (MUTANT OR MUTATION OR MUTA?)

?
?
?  s s3 and gene
Processing
          451   S3
      8252843   GENE
S4        306   S S3 AND GENE

?  rd
>>>W:  Duplicate detection is not supported for File 393.
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Records from unsupported files will be retained in the RD set.
S5        140   RD  (UNIQUE ITEMS)

?  t s5/3,k/1-140
>>>W:  KWIC option is not available in file(s): 399
 5/3,K/1 (Item 1 from file: 5)  Links
   Fulltext available through:   USPTO Full Text Retrieval Options
Biosis Previews(R)
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19406809   Biosis No.: 200700066550
Characterization and immunogenicity of an apxIA mutant of Actinobacillus
pleuropneumoniae

Author: Xu Fuzhou; Chen Xiaoling; Shi Aihua; Yang Bing; Wang Jinluo; Li Yongqing;
Guo Xin; Blackall P J; Yang Hanchun (Reprint)
Author Address: China Agr Univ, Key Lab Prevent Vet Med, Minist Agr, Coll Vet Med, 2
Yuanmingyuan W Rd, Beijing 100094, Peoples R China**Peoples R China
Author E-mail Address: yanghanchun1@cau.edu.cn
Journal: Veterinary Microbiology   118 ( 3-4 ): p 230-239 DEC 20 2006 2006
ISSN: 0378-1135
Document Type: Article
Record Type: Abstract
Language: English
Characterization and immunogenicity of an apxIA mutant of Actinobacillus
pleuropneumoniae

Abstract: Actinobacillus pleuropneumoniae is the aetiological agent of porcine
pleuropneumonia, a highly contagious and often fatal disease. A... ...potentially
capable of cross-serovar protection, was constructed by deleting the section of the
apxIA gene coding for the C-terminal segment of ApxI toxin of the A.
pleuropneumoniae serovar 10 reference strain (1313039) and inserting a
chloramphenicol resistance gene cassette. The mutant strain (termed
```

D13039A(-)Chl(Gamma)) produced an approximately 48 kDa protein corresponding to the N-terminus of the ApxI toxin, and exhibited no haemolytic activity and lower virulence in mice compared with the parental strain. The mutant was evaluated in a vaccination-challenge trial in which pigs were given two intra-nasal doses of the mutant at 14 days intervals and then challenged 14 days after the last vaccination with either A. pleuropneumoniae serovar 1 (4074) or serovar 2 (S1536) or serovar 10 (D13039) reference strains. The haemolysin... ...vaccinated pigs, compared with unvaccinated pigs, for serovar 2 challenge. Our work suggests that the mutant strain offers potential as a live attenuated pleuropneumonia vaccine that can provide cross-serovar protection...
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae... ...mutant, serovar-4074, serovar-D13039, serovar-S1536
Gene Name: Actinobacillus pleuropneumoniae apx IA gene (Pasteurellaceae ...
...mutation, regulation, expression

5/3,K/2 (Item 2 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

19265257 Biosis No.: 200600610652
High-throughput identification of conditionally essential genes in bacteria: From STM to TSM

Author: Bosse J T (Reprint); Zhou L; Kroll J S; Langford P R
Author Address: Univ London Imperial Coll Sci and Technol, Mol Infect Dis Grp, Dept Paediat, Norfolk Pl, London W2 1PG, UK**UK
Author E-mail Address: j.bosse@imperial.ac.uk
Journal: Infectious Disorders - Drug Targets 6 (3): p 241-262 SEP 2006 2006
ISSN: 1871-5265
Document Type: Article; Literature Review
Record Type: Abstract
Language: English

Abstract: Signature-tagged mutagenesis (STM) provided the first widely applicable high-throughput method for detecting conditionally essential genes in bacteria by using negative selection to screen large pools of transposon (Tn) mutants. STM requires no prior knowledge of the bacterium's genome sequence, and has been used... ...large number of Gram-positive and Gram-negative species, greatly expanding the repertoires of known virulence factors for these organisms. Originally, hybridization of radiolabelled probes to colony or dot blots was used to detect differences in populations of tagged mutants before and after growth under a selective condition. Modifications of the tag detection method involving... ...Genetic footprinting is another negative selection technique that uses PCR amplification to detect loss of mutants from a pool. Unlike PCR-STM, this technique allows direct arnplification of Tri-flanking sequences... ...requires the bacterium's whole genome sequence in order to design specific primers for every gene of interest. More recently, a number of techniques have been described that combine the negative... ...flanking regions for hybridization to microarrays. The superior sensitivity microarray detection allows greater numbers of mutants to be screened per pool, as well as determination of the coverage/distribution of insertions...
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae...
Chemicals & Biochemicals: ...gene;
Methods & Equipment: ...STM {signature-tagged mutagenesis}--... ...TSM {transposon mutagenesis}--

5/3,K/3 (Item 3 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

19244891 Biosis No.: 200600590286
Genetic analysis of the requirement for flp-2, tadV, and rcpB in Actinobacillus actinomycetemcomitans biofilm formation

Author: Perez B A; Planet P J; Kachlany S C; Tomich A; Fine D H; Figurski D H (Reprint)
Author Address: Columbia Univ Coll Phys and Surg, Dept Microbiol, 701 W 168th St, New York, NY 10032 USA**USA
Author E-mail Address: dhf2@columbia.edu
Journal: Journal of Bacteriology 188 (17): p 6361-6375 SEP 2006 2006
ISSN: 0021-9193
Document Type: Article
Record Type: Abstract
Language: English

Abstract: ...locus is dedicated to the biogenesis of Flp pili, which are required for colonization and virulence. We have previously shown that 11 of the 14 tad locus genes are required for... ...prepilin peptidase, is required for adherence. In contrast, targeted insertional inactivation of flp-2, a gene closely related to the prepillin gene flp-1, did not abrogate biofilm formation. Expression studies did not detect Flp2-T7 protein... ...that flp-2 does not play a significant role in the biology of this organism. Mutants with insertions at the 3' end of rcpB formed biofilms equivalent to wild-type A. actinomycetemcomitans. Surprisingly, 5' end chromosomal insertion mutants in rcpB were obtained only when a wild-type copy of the rcpB gene was provided in trans or when the Tad secretion system was inactivated. Together, our results...
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae...
Gene Name: Actinobacillus actinomycetemcomitans flp-2 gene (Pasteurellaceae) {Actinobacillus actinomycetemcomitans FMRF-Like Peptide family member 2 gene}--... ...allele, expression, mutation; ... ...Actinobacillus actinomycetemcomitans tadV gene (Pasteurellaceae ... ...allele, locus, expression, mutation; ... ...Actinobacillus actinomycetemcomitans rcpB gene (Pasteurellaceae) {Actinobacillus actinomycetemcomitans rough colony protein B gene}-- ... ...mutation, expression... ...Actinobacillus actinomycetemcomitans flp-1 gene (Pasteurellaceae) {Actinobacillus actinomycetemcomitans FMRF-Like Peptide family member 1 gene}--... ...mutation, expression

5/3,K/4 (Item 4 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

19103445 Biosis No.: 200600448840
Fhua and HgbA, outer membrane proteins of Actinobacillus pleuropneumoniae: their role as virulence determinants

Author: Shakarji Lara; Mikael Leonie G; Srikumar Ramakrishnan; Kobisch Marylbne; Coulton James W; Jacques Mario (Reprint)
Author Address: Univ Montreal, Fac Med Vet, Canadian Res Network Bacterial Pathogens Swine, Dept Pathol and Microbiol, CP 5000, St Hyacinthe, PQ J2S 7C6, Canada** Canada

Author E-mail Address: mario.jacques@umontreal.ca
Journal: Canadian Journal of Microbiology 52 (4): p 391-396 APR 2006 2006
ISSN: 0008-4166
Document Type: Article; Editorial
Record Type: Abstract
Language: English
Fhua and HgbA, outer membrane proteins of Actinobacillus pleuropneumoniae: their role as virulence determinants

Abstract: ...serotype 15 of biotype I and serotypes 13 and 14 of biotype 11 of

Actinobacillus pleuropneumoniae, fhuA and hgbA were detected by polymerase chain reaction and DNA sequencing. To determine the... ...specificity of the iron receptors FhuA and HgbA and to study their role in the virulence of A. pleuropneumoniae, we used two isogenic A. pleuropneumoniae serotype I deletion mutants of fhuA and hgbA. Different sources of iron and siderophores were tested in growth promotion assays. FhuA and HgbA are specific for their ligands ferrichrome and hemoglobin, respectively. The virulence of the two deletion mutant strains was evaluated in experimental infections using specific pathogen-free piglets. While the fhuA mutant (DG02) was as highly virulent as the parental strain S4074, the virulence of the hgbA mutant (Delta hgbA) was reduced. Our data indicate that both FhuA and HgbA are conserved among all serotypes and biotypes of A. pleuropneumoniae and that HgbA, the receptor for porcine hemoglobin, may play a role in virulence.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Diseases: Actinobacillus pleuropneumoniae infection...
Gene Name: Actinobacillus pleuropneumoniae fhuA gene (Pasteurellaceae...
...mutation, expression... ...Actinobacillus pleuropneumoniae hgbA gene (Pasteurellaceae ... ...mutation, expression
Miscellaneous Terms: Concept Codes: virulence determinant...

5/3,K/5 (Item 5 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

19035168 Biosis No.: 200600380563
Use of an Actinobacillus pleuropneumoniae multiple mutant as a vaccine that allows differentiation of vaccinated and infected animals

Author: Maas Alexander; Jacobsen Ilse D; Meens Jochen; Gerlach Gerald-F (Reprint)
Author Address: Stiftung Tierarztl Hsch Hannover, Inst Mikrobiol, Zentrum Infekt Med, Bischofsholer Damm 15, D-30173 Hannover, Germany**Germany
Author E-mail Address: gfgerlach@gmx.de
Journal: Infection and Immunity 74 (7): p 4124-4132 JUL 2006 2006
ISSN: 0019-9567
Document Type: Article
Record Type: Abstract
Language: English
Use of an Actinobacillus pleuropneumoniae multiple mutant as a vaccine that allows differentiation of vaccinated and infected animals

Abstract: Vaccination against Actinobacillus pleuropneumoniae is hampered by the lack of vaccines inducing reliable cross-serotype protection. In contrast, pigs... ...symptoms upon reinfection with any serotype. Thus, we set out to construct an attenuated A. pleuropneumoniae live vaccine allowing the differentiation of vaccinated from infected animals (the DIVA concept) by successively deleting virulence-associated genes. Based on an A. pleuropneumoniae serotype 2 prototype live negative marker vaccine (W. Tonpitak, N. Baltes, I. Hennig-Pauka, and... ...respiration and the ferric uptake regulator Fur were deleted, resulting in a highly attenuated sixfold mutant; this mutant was still able to colonize the lower respiratory tract and induced a detectable immune response. Upon a single aerosol application, this mutant provided significant protection from clinical symptoms upon heterologous infection with an antigenically distinct A. pleuropneumoniae serotype 9 challenge strain and allowed the serological discrimination between infected and vaccinated groups.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Diseases: Actinobacillus pleuropneumoniae infection...
Gene Name: Actinobacillus pleuropneumoniae apxIIA gene (Pasteurellaceae ...
...Actinobacillus pleuropneumoniae ureC gene (Pasteurellaceae) {Actinobacillus pleuroneumoniae urease alpha subunit C gene}--

5/3,K/6 (Item 6 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

18563586 Biosis No.: 200510258086
Differential expression of non-cytoplasmic Actinobacillus pleuropneumoniae proteins induced by addition of bronchoalveolar lavage fluid

Author: Jacobsen Ilse D; Meens Jochen; Baltes Nina; Gerlach Gerald-F (Reprint)
Author Address: Stiftung Tierarztliche Hsch Hannover, Zentrum Infekt Med, Inst Mikrobiol, Bischofsholer Damm 15, D-30173 Hannover, Germany**Germany
Author E-mail Address: gfgerlach@gmx.de
Journal: Veterinary Microbiology 109 (3-4): p 245-256 AUG 30 2005 2005
ISSN: 0378-1135
Document Type: Article
Record Type: Abstract
Language: English
Differential expression of non-cytoplasmic Actinobacillus pleuropneumoniae proteins induced by addition of bronchoalveolar lavage fluid

Abstract: Actinobacillus (A.) pleuropneumoniae is the causative agent of a porcine pleuropneumonia occurring worldwide. In order to identify novel non-cytoplasmic putative virulence-associated proteins, we prepared fractions enriched in surface-associated proteins for differential proteome analysis by... ...Four of the proteins upregulated by BALF were additionally constitutively expressed by an isogenic A. pleuropneumoniae fur deletion mutant and could be identified by Q-Tof MS as the heat shock protein GroES, a... ...two genes, one of which encodes part of a putative metal ion transporter. An isogenic mutant with a deletion in this protein was constructed and designated as A. pleuropneumoniae Delta fui. Analysis of the mutant in an aerosol infection model revealed symptoms indistinguishable from those seen upon infection with wild type A. pleuropneumoniae. This result implies that not all proteins upregulated by BALF are directly involved in A. pleuropneumoniae virulence. (C) 2005 Elsevier B.V. All rights reserved.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Gene Name: Actinobacillus pleuropneumoniae Fur box gene (Pasteurellaceae ...

5/3,K/7 (Item 7 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

18229229 Biosis No.: 200500135866
Enzymes involved in anaerobic respiration appear to play a role in Actinobacillus pleuropneumoniae virulence

Author: Jacobsen Ilse; Hennig-Pauka Isabel; Baltes Nina; Trost Matthias; Gerlach Gerald-F (Reprint)
Author Address: Zentrum InfektionsmedInst Mikrobiol, Stiftung Tieraztl Hochsch Hannover, Bischofsholer Damm 15, D-30173, Hannover, Germany**Germany
Author E-mail Address: gfgerlach@gmx.de
Journal: Infection and Immunity 73 (1): p 226-234 January 2005 2005
Medium: print
ISSN: 0019-9567 _(ISSN print)
Document Type: Article
Record Type: Abstract
Language: English
Enzymes involved in anaerobic respiration appear to play a role in Actinobacillus pleuropneumoniae virulence

Abstract: Actinobacillus pleuropneumoniae, the etiological agent of porcine

pleuropneumonia, is able to survive on respiratory epithelia, in tonsils... ...encapsulated sequesters. It was previously demonstrated that a deletion of the anaerobic dimethyl sulfoxide reductase gene (dmsA) results in attenuation in acute disease (N. Baltes, S. Kyaw, I. Hennig-Pauka, and... ...involved in the production of fumarate, an alternative electron acceptor under anaerobic conditions. The coding gene (aspA) was cloned and shown to be present in all A. pleuropneumoniae serotype reference strains. The transcriptional start point was identified downstream of a putative FNR binding motif, and BALF-dependent activation of aspA was confirmed by construction of an isogenic A. pleuropneumoniae mutant carrying a chromosomal aspA::luxAB transcriptional fusion. Two aspA deletion mutants, A. pleuropneumoniae DELTAaspA and A. pleuropneumoniae DELTAaspADELTAdmsA, were constructed, both showing reduced growth under anaerobic conditions in vitro. Pigs challenged with either of the two mutants in an aerosol infection model showed a lower lung lesion score than that of the A. pleuropneumoniae wildtype (wt) controls. Pigs challenged with A. pleuropneumoniae DELTAaspADELTAdmsA had a significantly lower clinical score, and this mutant was rarely reisolated from unaltered lung tissue; in contrast, A. pleuropneumoniae DELTAaspA and the A. pleuropneumoniae wt were consistently reisolated in high numbers. These results suggest that enzymes involved in anaerobic... ...s ability to persist on respiratory tract epithelium and play an important role in A. pleuropneumoniae pathogenesis.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae)
Gene Name: Actinobacillus pleuropneumoniae aspA gene (Pasteurellaceae... ...coding gene; ... ...Actinobacillus pleuropneumoniae dmsA gene (Pasteurellaceae) {Actinobacillus pleuropneumoniae anaerobic dimethyl sulfoxide reductase gene}
Miscellaneous Terms: Concept Codes: ...virulence

5/3,K/8 (Item 8 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

18039265 Biosis No.: 200400410054
Lack of influence of the anaerobic (NiFe) hydrogenase and L-1,2 propanediol oxidoreductase on the outcome of Actinobacillus pleuropneumoniae serotype 7 infection

Author: Baltes Nina (Reprint); Kyaw Sunn; Hennig-Pauka Isabel; Gerlach Gerald-F
Author Address: Inst MicrobiolDept Infect Dis, Hannover Sch Vet Med, Bischofsholer Damm 15, D-30173, Hannover, Germany**Germany
Author E-mail Address: nbaltes@gmx.de
Journal: Veterinary Microbiology 102 (1-2): p 67-72 August 19, 2004 2004
Medium: print
ISSN: 0378-1135
Document Type: Article
Record Type: Abstract
Language: English
...the anaerobic (NiFe) hydrogenase and L-1,2 propanediol oxidoreductase on the outcome of Actinobacillus pleuropneumoniae serotype 7 infection

Abstract: ...hybB) and for L-1,2 propanediol oxidoreductase (fucO), were identified in an Actinobacillus (A.) pleuropneumoniae serotype 7 strain. Based on the hypothesis that adaptation to anaerobic conditions in damaged lung tissue may play a role in A. pleuropneumoniae persistence in host tissues, deletion mutants with a deletion in the hybB or the fucO gene were constructed and examined in an aerosol infection model. Deletion of the hybB or fucO genes appeared to have no significant effect on A. pleuropneumoniae virulence. Copyright 2004 Elsevier B.V. All rights reserved.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Diseases: porcine pleuropneumoniae--
Gene Name: Actinobacillus pleuropneumoniae fucO gene (Pasteurellaceae) { Actinobacillus pleuropneumoniae L-1,2 propanediol oxidoreductase gene}--...

...Actinobacillus pleuropneumoniae hybB gene (Pasteurellaceae) {Actinobacillus pleuropneumoniae nickel-iron hydrogenase gene}--

5/3,K/9 (Item 9 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

17816416 Biosis No.: 200400184102
Two TonB systems in Actinobacillus pleuropneumoniae: Their roles in iron acquisition and virulence.

Author: Beddek Amanda J; Sheehan Brian J; Bosse Janine T; Rycroft Andrew N; Kroll J Simon (Reprint); Langford Paul R
Author Address: Molecular Infectious Disease Group, Department of Paediatrics, Faculty of Medicine, Imperial College London, Norfolk Place, St. Mary's Campus, London, W2 1PG, UK**UK
Author E-mail Address: s.kroll@imperial.ac.uk
Journal: Infection and Immunity 72 (2): p 701-708 February 2004 2004
Medium: print
ISSN: 0019-9567 _(ISSN print)
Document Type: Article
Record Type: Abstract
Language: English
Two TonB systems in Actinobacillus pleuropneumoniae: Their roles in iron acquisition and virulence.

Abstract: Iron acquisition in vivo by Actinobacillus pleuropneumoniae depends upon a functional TonB system. Tonpitak et al. (W. Tonpitak, S. Thiede, W. Oswald... ...with tbpBA encoding the transferrin receptor, and here we report a second, termed tonB2. This gene cluster (exbB2-exbD2-tonB2) is highly homologous to those in other Pasteurellaceae, unlike the earlier... ...or ferrichrome. In the case of iron provided as iron-loaded porcine transferrin, neither tonB mutant was viable. The tonB1 phenotype could be explained by a polar effect of the mutation on transcription of downstream tbp genes. We propose that TonB2 is crucial for the acquisition... ...by Tonpitak et al. TonB2 appears to play a much more important role in A. pleuropneumoniae virulence than TonB1. In an acute porcine infection model, the tonB2 mutant was found to be highly attenuated, while the tonB1 mutant was not. We hypothesize that acquisition of the tonB1-tbp gene cluster confers a biological advantage through its capacity to utilize transferrin-iron but that TonB1...
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Diseases: Actinobacillus pleuropneumoniae infection...
Gene Name: Actinobacillus pleuropneumoniae exbB2-exbD2-tonB2 gene (Pasteurellaceae... ...Actinobacillus pleuropneumoniae tbp gene (Pasteurellaceae ... ...Actinobacillus pleuropneumoniae tbpBA gene (Pasteurellaceae... ...Actinobacillus pleuropneumoniae tonB1 gene (Pasteurellaceae... ...Actinobacillus pleuropneumoniae tonB1-tbp gene (Pasteurellaceae... ...Actinobacillus pleuropneumoniae tonB2 gene (Pasteurellaceae...
Miscellaneous Terms: Concept Codes: ...gene homology... ...gene mutation; ... ...gene transcription... ...virulence

5/3,K/10 (Item 10 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

17674906 Biosis No.: 200400045663
Identification of dimethyl sulfoxide reductase in Actinobacillus pleuropneumoniae and its role in infection.

Author: Baltes Nina (Reprint); Hennig-Pauka Isabel; Jacobsen Ilse; Gruber Achim D; Gerlach Gerald F
Author Address: Zentrum fuer Infektionsmedizin, Institut fuer Mikrobiologie, Tieraerztliche Hochschule Hannover, Bischofsholer Damm 15, 30173, Hannover, Germany** Germany
Author E-mail Address: nbaltes@gmx.de
Journal: Infection and Immunity 71 (12): p 6784-6792 December 2003 2003
Medium: print
ISSN: 0019-9567 _(ISSN print)
Document Type: Article
Record Type: Abstract
Language: English
Identification of dimethyl sulfoxide reductase in Actinobacillus pleuropneumoniae and its role in infection.

Abstract: Actinobacillus pleuropneumoniae, the causative agent of porcine pleuropneumonia, is capable of persisting in oxygen-deprived surroundings, namely... ...the putative catalytic subunit DmsA of anaerobic dimethyl sulfoxide reductase was identified in an A. pleuropneumoniae serotype 7 strain. The 90-kDa protein exhibits 85% identity to the putative DmsA protein... ...its expression was found to be upregulated under anaerobic conditions. Analysis of the unfinished A. pleuropneumoniae genome sequence revealed putative open reading frames (ORFs) encoding DmsB and DmsC proteins situated downstream of the dmsA ORF. In order to investigate the role of the A. pleuropneumoniae DmsA protein in virulence, an isogenic deletion mutant, A. pleuropneumoniae DELTAdmsA, was constructed and examined in an aerosol infection model. A. pleuropneumoniae DELTAdmsA was attenuated in acute disease, which suggests that genes involved in oxidative metabolism under anaerobic conditions might contribute significantly to A. pleuropneumoniae virulence.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Miscellaneous Terms: Concept Codes: gene expression

5/3,K/11 (Item 11 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options

17394814 Biosis No.: 200300353533
Identification, cloning and characterization of rfaE of Actinobacillus pleuropneumoniae serotype 1, a gene involved in lipopolysaccharide inner-core biosynthesis.

Author: Provost Marilou; Harel Josee; Labrie Josee; Sirois Marc; Jacques Mario (Reprint)
Author Address: Groupe de Recherche sur les Maladies Infectieuses du Porc, Faculte de Medecine Veterinaire, Universite de Montreal, Saint-Hyacinthe, PQ, Canada** Canada
Author E-mail Address: mario.jacques@umontreal.ca
Journal: FEMS Microbiology Letters 223 (1): p 7-14 6 June 2003 2003
Medium: print
ISSN: 0378-1097
Document Type: Article
Record Type: Abstract
Language: English
Identification, cloning and characterization of rfaE of Actinobacillus pleuropneumoniae serotype 1, a gene involved in lipopolysaccharide inner-core biosynthesis.

Abstract: Actinobacillus pleuropneumoniae is the causative agent of porcine pleuropneumonia and its lipopolysaccharides (LPS) have been identified as ... ...in adherence to host cells. To better understand the role of LPS core in the virulence

of this organism, the aim of the present study was to identify and clone genes involved in LPS core biosynthesis by complementation with Salmonella enterica serovar Typhimurium mutants (rfaC, rfaD, rfaE and rfaF). Complementation with an A. pleuropneumoniae 4074 genomic library was successful with Salmonella mutant SL1102. This Salmonella deep-rough LPS mutant is defective for the rfaE gene, which is an ADP-heptose synthase. Novobiocin was used to select transformants that had the... ...similarity to the RfaE protein of S. enterica. We then attempted to generate an A. pleuropneumoniae rfaE mutant by gene replacement. The rfaE gene seems essential in A. pleuropneumoniae viability as we were unable to isolate a heptose-less knockout mutant.
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae...
Diseases: porcine pleuropneumoniae--
Gene Name: Actinobacillus pleuropneumoniae rfaE gene (Pasteurellaceae... ...Actinobacillus pleuropneumoniae rfaC gene (Pasteurellaceae ... ...Actinobacillus pleuropneumoniae rfaD gene (Pasteurellaceae ... ...Actinobacillus pleuropneumoniae rfaF gene (Pasteurellaceae)

5/3,K/12 (Item 12 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

17246362 Biosis No.: 200300205081
Actinobacillus pleuropneumoniae serotype 7 siderophore receptor FhuA is not required for virulence.

Author: Baltes Nina; Tonpitak Walaiporn; Hennig-Pauka Isabel; Gruber Achim D; Gerlach Gerald-F (Reprint)
Author Address: Institut fuer Mikrobiologie und Tierseuchen, Tieraerztliche Hochschule Hannover, 30173, Hannover, Germany**Germany
Author E-mail Address: gfgerlach@gmx.de
Journal: FEMS Microbiology Letters 220 (1): p 41-48 14 March, 2003 2003
Medium: print
ISSN: 0378-1097
Document Type: Article
Record Type: Abstract
Language: English
Actinobacillus pleuropneumoniae serotype 7 siderophore receptor FhuA is not required for virulence.

Abstract: A ferrichrome receptor, FhuA, was identified in Actinobacillus pleuropneumoniae serotype 7. An isogenic mutant with a deletion in the ferrichrome uptake receptor gene (fhuA) was constructed and examined in an aerosol infection model. The disease caused by the mutant was indistinguishable from disease induced by A. pleuropneumoniae serotype 7 wild-type; an isogenic mutant lacking expression of the exbB gene that is required for the uptake of transferrin-bound iron retained the ability to utilize...
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Gene Name: Actinobacillus fhuA gene (Pasteurellaceae) {Actinobacillus ferrichrome uptake receptor gene}
Miscellaneous Terms: Concept Codes: virulence;

5/3,K/13 (Item 13 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

16991360 Biosis No.: 200200584871
Generation of isogenic strains of Actinobacillus pleuropneumoniae serotype 1 that contain different amounts of capsular polysaccharide

Author: Bandara A B (Reprint); Inzana T J (Reprint)
Author Address: Virginia Polytechnic Institute and State University, Blacksburg, VA, USA** USA
Journal: Abstracts of the General Meeting of the American Society for Microbiology 102 p 67 2002 2002
Medium: print
Conference/Meeting: 102nd General Meeting of the American Society for Microbiology Salt Lake City, UT, USA May 19-23, 2002; 20020519
Sponsor: American Society for Microbiology
ISSN: 1060-2011
Document Type: Meeting; Meeting Abstract
Record Type: Abstract
Language: English
Generation of isogenic strains of Actinobacillus pleuropneumoniae serotype 1 that contain different amounts of capsular polysaccharide

Abstract: Actinobacillus pleuropneumoniae (Ap) is the etiologic agent of swine pleuropueumonia, a highly contagious, economically devastating disease found... ...by a given strain or serotype has been postulated as a contributing factor to the virulence of that strain. To investigate this hypothesis, a DNA region involved in serotype 1 strain... ...capsule biosynthesis (cps) was identified and cloned using a probe specific for the conserved cpxD gene involved in capsule export. This region comprised two open reading frames designated as cps1A and... ...cps1B open reading frames was constructed, a kanamycin resistance cassette (KanR) inserted, and the KanR gene transferred into strain 4074's chromosome by homologous recombination to produce mutant 4074DELTAcps1N. A similar procedure was used to make a 0.5-kb deletion in cps1B... ...4074. Therefore, capsule production by Ap is altered or interrupted when its cps region is mutated, but some capsule production can be restored to a nonencapsulated mutant by complementation in trans. These isogenic strains will be useful in pathogenesis studies to evaluate how the amount of serotype 1 capsule influences the virulence of Ap.
DESCRIPTORS:
Gene Name: cpxD gene

5/3,K/14 (Item 14 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options

16977464 Biosis No.: 200200570975
Transposon mutagenesis of Actinobacillus pleuropneumoniae using preformed Tn5/transposase complex

Author: Godbout M (Reprint); Couturier S (Reprint); Sirois M (Reprint)
Author Address: UQTR, Trois-Rivieres, PQ, Canada**Canada
Journal: Abstracts of the General Meeting of the American Society for Microbiology 102 p 57 2002 2002
Medium: print
Conference/Meeting: 102nd General Meeting of the American Society for Microbiology Salt Lake City, UT, USA May 19-23, 2002; 20020519
Sponsor: American Society for Microbiology
ISSN: 1060-2011
Document Type: Meeting; Meeting Abstract
Record Type: Abstract
Language: English
Transposon mutagenesis of Actinobacillus pleuropneumoniae using preformed Tn5/transposase complex

Abstract: The Gram negative coccobacilius Actinobacillus pleuropneumoniae (App) is responsable for porcine pleuropneumonia, a highly contagious respiratory infection causing significant economical losses to the industry. App expresses a number of virulence factors that are believe to play a key role in the pathogenesis process, and it... ...established that some of them are still to be discovered. Transposable

elements have become valuable mutagenic tools for molecular genetics analysis of virulent bacteria. Mini-Tn10 transposon has been shown to be active in App and was useful to create various gene knockouts. In order to simplify the scheme for the construction of App transposon mutant libraries, we report here the use of a preformed Tn5/transposon complex (transposome) which can generate gene mutations randomly with a simple in vivo insertion into the bacterial chromosome. App strain 4074 electrocompetent cells were prepared and electroporated with the Tn5/transposase complex. Mutants were selected on BHI-agar plates supplemented with NAD and kanamycine. Several experiences showed that the yield of mutants (kanamycine resistant colonies resulting from a chromosomal transposon insertion) was related to the electroporation efficiency of App. With the use of specific PCR primers designed to amplify the kanamycine resistance gene, we estimated yields of 200 App mutants per ug of DNA in standard electroporation experiments. Southern-blot hybridization and DNA sequencing analysis... ...new approach will facilitate genetic analysis in App, particularly in the construction of App knockout mutant libraries to further identify new genes implicated in the virulence process.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Diseases: Actinobacillus pleuropneumoniae infection...
Chemicals & Biochemicals: ...virulence factors
Gene Name: Actinobacillus pleuropneumoniae virulence genes (Pasteurellaceae)
Miscellaneous Terms: Concept Codes: ...gene knockouts... ...pathogenic bacteria virulence genetics... ...transposon mutagenesis;

5/3,K/15 (Item 15 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

16786064 Biosis No.: 200200379575
Both transferrin binding proteins are virulence factors in Actinobacillus pleuropneumoniae serotype 7 infection

Author: Baltes Nina; Hennig-Pauka Isabel; Gerlach Gerald-F (Reprint)
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Journal: FEMS Microbiology Letters 209 (2): p 283-287 9 April, 2002 2002
Medium: print
ISSN: 0378-1097
Document Type: Article
Record Type: Abstract
Language: English
Both transferrin binding proteins are virulence factors in Actinobacillus pleuropneumoniae serotype 7 infection

Abstract: Three genetically defined Actinobacillus pleuropneumoniae serotype 7 mutants with deletions in the small (tbpB), the large (tbpA), and both transferrin binding protein genes were constructed and examined in an aerosol infection model. Neither mutant caused clinical disease or could be reisolated, and no immune response could be detected 21... ...infection. This result clearly implies that each transferrin binding protein on its own is a virulence factor of A. pleuropneumoniae serotype 7.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Miscellaneous Terms: Concept Codes: ...bacterial virulence factors... ...gene functions... ...gene mutations;

5/3,K/16 (Item 16 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

16687221 Biosis No.: 200200280732

Identification of genes involved in biosynthesis of Actinobacillus pleuropneumoniae serotype 1 O-antigen and biological properties of rough mutants

Author: Labrie Josee; Rioux Stephane; Wade Mary Margaret; Champlin Franklin R; Holman Steven C; Wilson W William; Savoye Chantal; Kobisch Marylene; Sirois Marc; Galarneau Catherine; Jacques Mario (Reprint)
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Journal: Journal of Endotoxin Research 8 (1): p 27-38 2002 2002
Medium: print
ISSN: 0968-0519
Document Type: Article
Record Type: Abstract
Language: English
Identification of genes involved in biosynthesis of Actinobacillus pleuropneumoniae serotype 1 O-antigen and biological properties of rough mutants

Abstract: Actinobacillus pleuropneumoniae is an important pathogen of swine. Lipopolysaccharide (LPS) has been identified as the major adhesin of A. pleuropneumoniae and it is involved in adherence to porcine respiratory tract cells. We previously generated seven rough LPS mutants of A. pleuropneumoniae serotype 1 by using a mini-Tn10 transposon mutagenesis system (Rioux S, Galarneau C, Harel J et al. Isolation and characterization of mini-Tn10 lipopolysaccharide mutants of Actinobacillus pleuropneumoniae serotype 1. Can J Microbiol 1999; 45: 1017-1026). The purpose of the present study was to characterize these mutants in order to learn more about LPS O-antigen biosynthesis genes and their organization in A. pleuropneumoniae, and to determine the surface properties and virulence in pigs of these isogenic mutants. By mini-Tn10 insertions in rough mutants, four putative genes (ORF12, ORF16, ORF17, and ORF18) involved in O-antigen biosynthesis in A. pleuropneumoniae serotype 1 were found within a region of 18 ORFs. This region is homologous to the gene cluster of serotype-specific O-polysaccharide biosynthesis from A. actinomycetemcomitans strain Y4 (serotype b). Two mutants showed homology to a protein with identity to glycosyltransferases (ORF12); two others had the mini... ...is known to initiate polysaccharide synthesis (ORF18). These four ORFs were also present in A. pleuropneumoniae serotypes 9 and 11 that express an O-antigen that serologically cross-reacts with serotype 1. Evaluation of some biological properties of rough mutants seems to indicate that the absence of O-chains does not appear to have an influence on the virulence of the bacteria in pigs and on the overall surface hydrophobicity, charge and hemoglobin-binding activity, or on LAL activation. An acapsular mutant was included in the present study in order to compare the influence of O-chains... ...polysaccharides and not O-chains polysaccharides have a major influence on surface properties of A. pleuropneumoniae serotype 1 and its virulence in pigs.
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae...
Gene Name: Actinobacillus pleuropneumoniae o-antigen synthesis genes (Pasteurellaceae)

5/3,K/17 (Item 17 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options

16595498 Biosis No.: 200200189009
Variation in the virulence of Actinobacillus pleuropneumoniae due to the type and amount of capsular polysaccharide produced

Author: Bandara A B (Reprint); Inzana T J; Lawrence M L
Author Address: Virginia Polytechnic Institute and State University, Blacksburg, VA, USA** USA
Journal: Abstracts of the General Meeting of the American Society for Microbiology 101 p 141 2001 2001

Medium: print
Conference/Meeting: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001; 20010520
Sponsor: American Society for Microbiology
ISSN: 1060-2011
Document Type: Meeting; Meeting Abstract; Meeting Poster
Record Type: Abstract
Language: English
Variation in the virulence of Actinobacillus pleuropneumoniae due to the type and amount of capsular polysaccharide produced

Abstract: Actinobacillus pleuropneumoniae (Ap), is the etiologic agent of swine pleuropneumonia. This bacterium synthesizes one of fourteen serotype ... ...CP) that act as a protective barrier against host defense systems. Different serotypes vary in virulence as well as exotoxin production. Our objective was to determine if the amount or type of CP contributes to the degree of virulence of Ap. A DNA region involved in CP synthesis (cps) in serotype 1 strain 4074 was identified and cloned using a probe specific for the conserved cpxD gene involved in CP export. A 0.7-kb deletion spanning the cpsA and cpsB open reading frames was constructed, a kanamycin resistance cassette (KanR) was inserted, and the KanR gene transferred into strain 4074's chromosome by homologous recombination to produce mutant 4074DELTAcps1N. A similar procedure was used to make a 0.5-kb deletion in cps1B... ...These preliminary results indicate that both the type and amount of CP may influence the virulence of isogenic Ap strains.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Gene Name: Actinobacillus cpxD gene (Pasteurellaceae)

5/3,K/18 (Item 18 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

16583138 Biosis No.: 200200176649
Sit3, an iron uptake ABC transporter required for full systemic virulence of Streptococcus pneumoniae

Author: Brown J S (Reprint); Gilliland S M; Holden D W
Author Address: Imperial College School of Medicine, London, UK**UK
Journal: Abstracts of the General Meeting of the American Society for Microbiology 101 p 125 2001 2001
Medium: print
Conference/Meeting: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001; 20010520
Sponsor: American Society for Microbiology
ISSN: 1060-2011
Document Type: Meeting; Meeting Abstract
Record Type: Abstract
Language: English
Sit3, an iron uptake ABC transporter required for full systemic virulence of Streptococcus pneumoniae

Abstract: ...product has similarity to lipoprotein iron receptors from Brachyspira hyodysenteriae (BitC 42% identity) and Actinobacillus pleuropneumoniae (AfuA 30%). Sit3A is the first of four genes, sit3ABCD, which encode an ABC transport... ...B, and sit3C and D are transcriptionally linked. A S. pneumoniae strain containing a defined mutation in sit3A was constructed by insertion duplication mutagenesis. Compared to the wild-type strain the sit3A- strain had delayed growth in Todd-Hewitt... ...cells contain less iron than wild-type cells. The effect of the sit3A- disruption on virulence was assessed by mixed infection with the wild-type strain in mouse models of pulmonary... ...iron acquisition by S. pneumoniae during growth within blood. Comparison of the streptonigrin sensitivity and virulence of strains containing single or double disruptions of sit3A and of two previously

described S...
DESCRIPTORS:
Gene Name: Streptococcus pneumoniae sit1 gene (Gram-Positive Cocci...
...Streptococcus pneumoniae sit2 gene (Gram-Positive Cocci)
Miscellaneous Terms: Concept Codes: systemic virulence;

5/3,K/19 (Item 19 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

16485790 Biosis No.: 200200079301
Attenuation of Actinobacillus pleuropneumoniae by inactivation of aroQ

Author: Ingham Aaron (Reprint); Zhang Yamei; Prideaux Chris
Author Address: Livestock Industries, CSIRO, Geelong, Vic., 3220, Australia**Australia
Journal: Veterinary Microbiology 84 (3): p 263-273 23 January, 2002 2002
Medium: print
ISSN: 0378-1135
Document Type: Article
Record Type: Abstract
Language: English
Attenuation of Actinobacillus pleuropneumoniae by inactivation of aroQ

Abstract: Actinobacillus pleuropneumoniae is the aetiological agent of porcine pleuropneumonia, a disease resulting in morbidity and mortality of... ...losses within the swine industry. In order to construct a potential vaccine strain of A. pleuropneumoniae for control of this disease, the aroQ gene, required for the aromatic biosynthetic pathway, was targeted for inactivation. The resulting strain was tested for virulence within pigs. The aroQ gene and an adjacent gene, dapD, were cloned. A recombination cassette for inactivation of aroQ, was constructed from these cloned genes by inserting an ampicillin resistance ggene and this was transformed into A. pleuropneumoniae. Integration of this construct into the chromosomal location of aroQ and disruption of the aroQ/dapD gene arrangement was confirmed through PCR and Southern analysis. The resulting HS25 aroQ mutants were unable to grow in a chemically defined medium and following intratracheal delivery to pigs... ...times greater than that of the parent strain. Complementation with an in trans, functional, aroQ gene restored the ability of the mutant strain to grow in a chemically defined medium and virulence, when tested in pigs, confirming attenuation results from inactivation of aroQ. In conclusion, this work has constructed a defined mutant of A. pleuropneumoniae that is attenuated and may be safely delivered live to pigs.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Gene Name: Actinobacillus pleuropneumoniae HS25/aroQ gene (Pasteurellaceae...
...mutant; ... ...Actinobacillus pleuropneumoniae ampicillin resistance gene (Pasteurellaceae... ...mutant; ... ...Actinobacillus pleuropneumoniae aroQ gene (Pasteurellaceae ... ...Actinobacillus pleuropneumoniae aroQ/dapD gene (Pasteurellaceae... ...Actinobacillus pleuropneumoniae dapD gene (Pasteurellaceae

5/3,K/20 (Item 20 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

15631443 Biosis No.: 200000349756
Identification of Actinobacillus pleuropneumoniae virulence genes using signature-tagged mutagenesis in a swine infection model

Author: Fuller Troy E (Reprint); Martin Stephen; Teel Janet F; Alaniz Glenn R; Kennedy Michael J; Lowery David E
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USA**USA
Journal: Microbial Pathogenesis 29 (1): p 39-51 July, 2000 2000
Medium: print
ISSN: 0882-4010
Document Type: Article
Record Type: Abstract
Language: English
Identification of Actinobacillus pleuropneumoniae virulence genes using signature-tagged mutagenesis in a swine infection model

Abstract: Actinobacillus pleuropneumoniae is a significant respiratory pathogen of swine causing a severe and often fatal fibrinous hemorrhagic... ...chronic as well as acute infections. This study describes the application of a signature-tagged mutagenesis (STM) system to identify in vivo critical genes of A. pleuropneumoniae. Twenty pools representing over 800 A. pleuropneumoniae mutants were screened in a natural-host porcine infection model and presumptive attenuated mutants were selected. The identity of the disrupted gene in each mutant was determined using an inverse PCR approach to amplify DNA sequences adjacent to the transposon... ...to bacterial databases. In vitro and in vivo competitive indices were determined for each unique mutant, and a total of 20 unique, attenuating gene disruptions were identified including insertions into homologues of genes involved in biosynthesis, virulence determinants, regulation, translation and unknown functions. Three of the genes required for virulence of A. pleuropneumoniae in this study were also identified in a previous STM study of Pasteurella multocida. Seven of the STM-derived mutants were also evaluated for their potential as live vaccine strains and provided good protection against...
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...
Chemicals & Biochemicals: ...Actinobacillus pleuropneumoniae virulence genes... ...mutations
Methods & Equipment: signature-tagged mutagenesis--
Miscellaneous Terms: Concept Codes: ...virulence--

15448553 Biosis No.: 200000166866
Actinobacillus pleuropneumoniae iron transport: A set of exbBD genes is transcriptionally linked to the tbpB gene and required for utilization of transferrin-bound iron

Author: Tonpitak Walaiporn; Thiede Svenja; Oswald Winfried; Baltes Nina; Gerlach Gerald-F (Reprint)
Author Address: Institut fuer Mikrobiologie und Tierseuchen, Tieraerztliche Hochschule Hannover, Bischofsholer Damm 15, 30173, Hannover, Germany**Germany
Journal: Infection and Immunity 68 (3): p 1164-1170 March, 2000 2000
Medium: print
ISSN: 0019-9567
Document Type: Article
Record Type: Abstract
Language: English
Actinobacillus pleuropneumoniae iron transport: A set of exbBD genes is transcriptionally linked to the tbpB gene and required for utilization of transferrin-bound iron

Abstract: Upon iron restriction, Actinobacillus pleuropneumoniae has been shown to express the transferrin-binding proteins TbpB and TbpA, both of which have been implied to be important virulence factors. In order to identify additional iron-regulated proteins, we cloned and analyzed the region upstream of the transferrin-binding protein genes in an A. pleuropneumoniae serotype 7 strain. We

located immediately upstream of the tbpB gene two open reading frames which were 43% homologous to the neisserial ExbBD protein genes. By... ...growth conditions only, and RT-PCR analysis revealed that the exbBD genes and the tbpB gene are transcribed on a single polycistronic mRNA. By constructing an isogenic and nonpolar exbBD mutant, we showed that the exbBD genes are required by A. pleuropneumoniae for utilization of transferrin-bound iron. Using PCR and Western blotting, we showed that the genetic organization found in A. pleuropneumoniae serotype 7 is similar in all 12 A. pleuropneumoniae serotype reference strains.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae)
Chemicals & Biochemicals: ...Actinobacillus pleuropneumoniae exbB gene; ... ...Actinobacillus pleuropneumoniae exbD gene; ... ...Actinobacillus pleuropneumoniae tbpB gene

5/3,K/22 (Item 22 from file: 5) Links
Fulltext available through: SpringerLink USPTO Full Text Retrieval Options
Biosis Previews(R)

14702423 Biosis No.: 199800496670
Protection of mice against challenge with homologous and heterologous serovars of Actinobacillus pleuropneumoniae after live vaccination

Author: Prideaux Christopher T (Reprint); Pierce Lesley; Krywult Jolanta; Hodgson Adrian L
Author Address: CSIRO Div. Anim. Health, Private Bag 24, Geelong, VIC 3120, Australia** Australia
Journal: Current Microbiology 37 (5): p 324-332 Nov., 1998 1998
Medium: print
ISSN: 0343-8651
Document Type: Article
Record Type: Abstract
Language: English
Protection of mice against challenge with homologous and heterologous serovars of Actinobacillus pleuropneumoniae after live vaccination

Abstract: Protective immune responses and the virulence of Actinobacillus pleuropneumoniae (APP) have been attributed, in part, to toxins (Apx) produced by the bacterium. A mutant of the serovar 7 strain HS93 (HS93Tox-), lacking the genes encoding the structural toxin ApxA... ...mouse model. A plasmid vector system was developed and used to express the Apx-4 gene from within the HS93Tox- strain. The resulting strain, HS93Tox-/pIG-T1K, expresses the Apx structural...
DESCRIPTORS:
Organisms: ...Actinobacillus-pleuropneumoniae (Pasteurellaceae...
Miscellaneous Terms: Concept Codes: ...bacterial virulence;

5/3,K/23 (Item 23 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

14554250 Biosis No.: 199800348497
Cloning and mutagenesis of a serotype-specific DNA region involved in encapsulation an virulence of Actinobacillus pleuropneumoniae serotype 5a: Concomitant expression of serotype 5a and 1 capsular polysaccharides in recombinant A. pleuropneumoniae serotype 1

Author: Ward Christine K; Lawrence Mark L; Veit Hugo P; Inzana Thomas J (Reprint)
Author Address: 1410 Prices Fork Rd., CMMID, VA-MD Regional Coll. Vet. Med., Va. Tech, Blacksburg, VA 24061-0342, USA**USA
Journal: Infection and Immunity 66 (7): p 3326-3336 July, 1998 1998
Medium: print

ISSN: 0019-9567
Document Type: Article
Record Type: Abstract
Language: English
Cloning and mutagenesis of a serotype-specific DNA region involved in encapsulation an virulence of Actinobacillus pleuropneumoniae serotype 5a: Concomitant expression of serotype 5a and 1 capsular polysaccharides in recombinant A. pleuropneumoniae serotype 1

Abstract: A DNA region involved in Actinobacillus pleuropneumoniae serotype 5 capsular polysaccharide (CP) biosynthesis was identified and characterized by using a probe specific for the cpxD gene involved in CP export. The adjacent serotype 5-specific CP biosynthesis region was cloned from... ...cps5ABC was substantially lower (28%) than that of cps5D and the rest of the A. pleuropneumoniae chromosome (42%). A 2.1-kb deletion spanning the cloned cps5ABC open reading frames was... ...transferred into the J45 chromosome by homologous recombination with a kanamycin resistance cassette to produce mutant J45-100. Multiplex PCR confirmed the deletion in this region of J45-100 DNA. J45... ...biosynthesis. However, biosynthesis of the Apx toxins, lipopolysaccharide, and membrane proteins was unaffected by the mutation. Besides lack of CP biosynthesis, and in contrast to J45, J45-100 grew faster, was... ...100 caused mild to moderate lung lesions but not death. Electroporation of cps5ABC into A. pleuropneumoniae serotype 1 strain 4074 generated strain 4074(pJMLCPS5), which expressed both serotype 1 and serotype... ...mortality and bacteremia in pigs and mice following respiratory challenge than strain 4074, indicating that virulence was affected by diminished capsule production. These results emphasize the importance of CP in the serum resistance and virulence of A. pleuropneumoniae.
DESCRIPTORS:
Organisms: ...Actinobacillus-pleuropneumoniae (Pasteurellaceae...
Chemicals & Biochemicals: cpxD gene; ... ...cloning, virulence, mutagenesis, encapsulation

5/3,K/24 (Item 24 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

13960419 Biosis No.: 199799594479
Identification and characterization of a DNA region involved in the export of capsular polysaccharide by Actinobacillus pleuropneumonia serotype 5a

Author: Ward Christine K; Inzana Thomas J (Reprint)
Author Address: Virginia-Maryland Regional Coll. Veterinary Med., Virginia Tech., 1410 Prices Fork Rd., Blacksburg, VA 24061-0342, USA**USA
Journal: Infection and Immunity 65 (6): p 2491-2496 1997 1997
ISSN: 0019-9567
Document Type: Article
Record Type: Abstract
Language: English

Abstract: Actinobacillus pleuropneumoniae synthesizes a serotype-specific capsular polysaccharide that acts as a protective barrier to phagocytosis and complement-mediated killing. To begin understanding the role of A. pleuropneumoniae capsule in virulence, we sought to identify the genes involved in capsular polysaccharide export and biosynthesis. A 53-kb XbaI fragment of A. pleuropneumoniae serotype 5a J45 genomic DNA that hybridized with DNA probes specific for the Haemophilus influenzae type b cap export region was cloned and sequenced. This A. pleuropneumoniae DNA fragment encoded four open reading frames, designated cpxDCBA. The nucleotide and predicted amino acid... ...extent, Escherichia coli K1 and K5 kpsE and kpsMT. When present in trans, the cpxDCBA gene cluster complemented kpsM::TnphoA or kpsT::TnphoA mutations, determined by enzyme immunoassay and by restored sensitivity to a K5-specific bacteriophage. A cpxCB probe hybridized to

genomic DNA from all A. pleuropneumoniae serotypes tested, indicating that this DNA was conserved among serotypes. These data suggest that A. pleuropneumoniae produces a group II family capsule similar to those of related mucosal pathogens.
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae...
Miscellaneous Terms: Concept Codes: BEXDCBA GENE CLUSTER... ...CPXDCBA GENE CLUSTER... ...CTRABCD GENE CLUSTER...

5/3,K/25 (Item 25 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

12910172 Biosis No.: 199598378005
Molecular investigation of the role of ApxI and ApxII in the virulence of Actinobacillus pleuropneumoniae serotype 5

Author: Reimer David; Frey Joachim; Jansen Ruud; Veit Hugo P; Inzana Thomas J (Reprint)
Author Address: Cent. for Molecular Med. and Infectious Dieases, Virginia-Maryland Regional Coll. of Veterinary Med., Blacksburg, VA, USA**USA
Journal: Microbial Pathogenesis 18 (3): p 197-209 1995 1995
ISSN: 0882-4010
Document Type: Article
Record Type: Abstract
Language: English
Molecular investigation of the role of ApxI and ApxII in the virulence of Actinobacillus pleuropneumoniae serotype 5

Abstract: The extracellular hemolytic toxins (ApxI and ApxII) of Actinobacillus pleuropneumoniae are thought to be important factors in this microorganism's virulence and the pathogenesis of swine pleuropneumonia. Using the polymerase chain reaction, the apxI locus of a nonhemolytic, avirulent mutant of A. pleuropneumoniae serotype 5 (mIT4-H) generated by chemical mutagenesis (Inzana T. J., Todd J., Veit H. P. Microb Pathog 1991; 10: 281-96) was... ...to contain deletions that affected major parts of the entire apxICABD operon, thus inactivating each gene in the operon. The apxII locus was not affected. Monoclonal antibodies to ApxI and ApxII... ...was required to induce lesions similar to those caused by mIT4-H/pJFF800. Thus, A. pleuropneumoniae strains that produce ApxI and ApxII require ApxI for full virulence and toxic activity in pigs. However, other factors including ApxII contribute to the virulence of A. pleuropneumoniae in pigs.
DESCRIPTORS:
Organisms: Actinobacillus pleuropneumoniae (Pasteurellaceae...

5/3,K/26 (Item 26 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

12609385 Biosis No.: 199598077218
Association of the CAMP phenomenon in Actinobacillus pleuropneumoniae with the RTX toxins ApxI, ApxII and ApxIII

Author: Frey Joachim (Reprint); Kuhn Rolf; Nicolet Jacques
Author Address: Inst. Veterianry Bacteriology, Univ. Berne, Laenggasstrasse 122, CH-3012 Berne, Switzerland**Switzerland
Journal: FEMS Microbiology Letters 124 (2): p 245-251 1994 1994
ISSN: 0378-1097
Document Type: Article
Record Type: Abstract
Language: English
Association of the CAMP phenomenon in Actinobacillus pleuropneumoniae with the RTX toxins ApxI, ApxII and ApxIII

Abstract: A non-hemolytic mutant of Actinobacillus pleuropneumoniae serotype 5 has a deletion spanning the entire apxI operon. Therefore it does not produce ApxI and is unable to secrete ApxII. This mutant also has lost the co-hemolytic CAMP effect which is characteristic of the species A. pleuropneumoniae. The CAMP effect is restored when the mutant is complemented in trans by the apxIBD genes cloned in a broad host range vector, thus permitting secretion of ApxII, or when the entire apxI operon is cloned in the mutant, thus restoring the original toxin phenotype ApxI+ ApxII+. When the toxins ApxI, ApxII or ApxIII... ...ApxIII, somewhat less when ApxI is expressed, and weak when ApxII is expressed. In A. pleuropneumoniae the CAMP phenomenon is also strongest in those serotypes which express ApxIII. The CAMP phenomenon of A. pleuropneumoniae is assumed to be directly caused by any of the RTX-toxins ApxI, ApxII or ApxIII. A previously reported gene from A. pleuropneumoniae, named cfp or hlyX, which provides E. coli strains with a hemolytic character and a CAMP phenomenon, shows high similarity to the E. coli global regulation gene fnr, and which is able to complement a DELTA-fnr mutant. This gene is assumed to have a regulatory effect on the expression of yet unknown genes giving...
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae)
Miscellaneous Terms: Concept Codes: CFP GENE; ... ...FNR GENE; ... ...GENE REGULATION... ...HLYX GENE; ... ...VIRULENCE FACTOR

5/3,K/27 (Item 27 from file: 5) Links
Fulltext available through: USPTO Full Text Retrieval Options Blackwell Publishing
Biosis Previews(R)

12539143 Biosis No.: 199598006976
The RTX haemolysins ApxI and ApxII are major virulence factors of the swine pathogen Actinobacillus pleuropneumoniae: Evidence from mutational analysis

Author: Tascon Ruben I; Vazquez-Boland Jose A (Reprint); Gutierrez-Martin Cesar B; Rodriguez-Barbosa Ignacio; Rodriguez-Ferri Elias F
Author Address: Unidad Microbiol. Inmunologia, Fac. Vet., Univ. Complutense, 28040 Madrid, Spain**Spain
Journal: Molecular Microbiology 14 (2): p 207-216 1994 1994
ISSN: 0950-382X
Document Type: Article
Record Type: Abstract
Language: English
The RTX haemolysins ApxI and ApxII are major virulence factors of the swine pathogen Actinobacillus pleuropneumoniae: Evidence from mutational analysis

Abstract: ...of the RTX hameolysins (ApxI and ApxII) of the swine pathogen Actinobacillus pleuro-pneumoniae in virulence was investigated using haemolysin-deficient mutants constructed by a mini-Tn10 mutagenesis procedure. Two types of haemolysin mutant with single insertions of the transposon were obtained from a serotype 1 strain producing both... ...ApxII. The chromosomal regions flanking mini-Tn10 were cloned and sequenced. In the non-haemolytic mutant, the transposon had inserted in apxIB, a gene involved in the exportation of ApxI and ApxII toxins. The weakly haemolytic mutant resulted from the disruption of the structural gene for ApxI. Both mutations in the apxI operon were associated with a significant loss of virulence for mice and pigs, demonstrating that haemolysins are involved in A. pleuropneumoniae pathogenicity. The non-haemolytic mutant was apathogenic and the weakly haemolytic mutant retained some virulence for pigs, suggesting that both ApxI and ApxII are needed for full virulence.
DESCRIPTORS:
Organisms: ...Actinobacillus pleuropneumoniae (Pasteurellaceae...

5/3,K/28 (Item 28 from file: 5) Links

Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

12023588 Biosis No.: 199497044873
Cloning and characterization of btr, a Bordetella pertussis gene encoding an FNR-like transcriptional regulator

Author: Bannan Jason D; Moran Michael J; Macinnes Janet I; Soltes Glenn A; Friedman Richard L (Reprint)
Author Address: Dep. Microbiol. Immunol., Univ. Ariz., Tucson, AZ 85724, USA**USA
Journal: Journal of Bacteriology 175 (22): p 7228-7235 1993 1993
ISSN: 0021-9193
Document Type: Article
Record Type: Abstract
Language: English
Cloning and characterization of btr, a Bordetella pertussis gene encoding an FNR-like transcriptional regulator

Abstract: ...other than the bifunctional hemolysin-adenylate cyclase toxin (cyclolysin) are expressed by Bordetella pertussis, a gene library was constructed from a virulent strain of B. pertussis, BP504, transformed into nonhemolytic Escherichia... ...detected with FNR of E. coli and several other transcriptional regulators including HlyX from Actinobacillus pleuropneumoniae, which can also confer a hemolytic phenotype on E. coli. An fnr mutant of E. coli, JRG1728, could be complemented by pHLY1A. Thus, the B. pertussis transcriptional regulator-like gene and the protein which it encoded were named btr and BTR, respectively. A BTR-deficient B. pertussis strain, BJB1, was constructed. The btr::kan mutation had no effect on the expression of hemolytic activity or on phase variation. Northern (RNA... ...an anaerobically deficient E. coli strain (JRG1728) in growing anaerobically, BTR may regulate B. pertussis gene expression in response to changes in oxygen levels or to changes in the redox potential of the bacterial environment. Its role in virulence remains to be determined.
DESCRIPTORS:
Miscellaneous Terms: Concept Codes: GENE REGULATION

5/3,K/29 (Item 29 from file: 5) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Biosis Previews(R)

11185203 Biosis No.: 199293028094
TRANSFORMATION OF ACTINOBACILLUS-ACTINOMYCETEMCOMITANS BY ELECTROPORATION UTILIZING CONSTRUCTED SHUTTLE PLASMIDS

Author: SREENIVASAN P K (Reprint); LEBLANC D J; LEE L N; FIVES-TAYLOR P
Author Address: DEP MCIROBIOLOGY MOLECULAR GENETICS, UNIV VERMONT, BURLINGTON, VERMONT 05405, USA**USA
Journal: Infection and Immunity 59 (12): p 4621-4627 1991
ISSN: 0019-9567
Document Type: Article
Record Type: Abstract
Language: ENGLISH

Abstract: ...been strongly implicated in human periodontal disease. Advances in the molecular analysis of A. actinomycetemcomitans virulence factors have been limited due to the unavailability of systems for genetic transfer, transposon mutagenesis, and gene complementation. Slow progress can be traced almost exclusively to the lack of gene vector systems and methods for the introduction of DNA into A. actinomycetemcomitans. An electrotransformation system... ...these shuttle plasmids and an efficient transformation procedure should significantly facilitate the molecular analysis of virulence factors of A. actinomycetemcomitans.

Descriptors: ACTINOBACILLUS-PLEUROPNEUMONIAE ESCHERICHIA-COLI DNA TRANSFER METHOD VIRULENCE FACTOR ANALYSIS POTENTIAL

5/3,K/30 (Item 1 from file: 24) Links
Fulltext available through: USPTO Full Text Retrieval Options
CSA Life Sciences Abstracts

0002671101 IP Accession No: 6146673
Susceptibility of LPS mutants of Actinobacillus pleuropneumoniae to cationic antimicrobial peptides

Jacques, M; Ramjeet, M; Cox, AD; St. Michael, F; Deslandes, V; Labrie, J; Gottschalk, M GREMIP, Faculte de medecine veterinaire, Universite de Montreal, St-Hyacinthe, QC, Canada J2S 7C6, [mailto:mario.jacques@umontreal.ca]
Journal of Endotoxin Research , v 10 , n 5 , p p. 62 , 2004
Publication Date: 2004
Publisher: W.S. Maney & Son Ltd., Hudson Road Leeds LS9 7DL UK, [URL:http://www.ingenta.com]

Conference:
8th Biennial Conference of the International Endotoxin Society, Kyoto (Japan), 15-18 Nov 2004

Document Type: Journal Article; Conference
Record Type: Abstract
Language: English
Summary Language: English
ISSN: 0968-0519
File Segment: Bacteriology Abstracts (Microbiology B)
Susceptibility of LPS mutants of Actinobacillus pleuropneumoniae to cationic antimicrobial peptides

Abstract:
Actinobacillus pleuropneumoniae is an important pathogen of swine. We previously reported that lipopolysaccharides (LPSs) are involved in the adherence of A. pleuropneumoniae to host respiratory tract cells. Rough LPS and core LPS mutants of A. pleuropneumoniae serotype 1 were generated by using a mini-Tn10 transposon mutagenesis system, and the gene affected by the transposon was identified in each of these mutants. The purpose of the present study was to evaluate the susceptibility of various A. pleuropneumoniae LPS mutants to cationic antimicrobial peptides which are important components of the innate immune response. We determined... ...the peptides polymyxin B, protamine, cecropin P1, melittin, protegrin-1, and mastoparan. A rough LPS mutant of A. pleuropneumoniae exhibited the same susceptibility to these cationic peptides as that of the wild-type (WT) parent strain 4074 Nal super(r). On the other hand, three core LPS mutants were more susceptible to cationic peptides than the WT strain. Structural analysis of the LPS from all mutants was performed. Our data indicate that an intact outer core is required for optimal protection of A. pleuropneumoniae against the antimicrobial activity of cationic peptides. It would be most interesting to infect pigs experimentally with the core LPS mutants and compare their virulence with that of the WT strain.

Descriptors: Lipopolysaccharides; Adherence; Cationic peptides; cationic antimicrobial peptides; Respiratory tract; mastoparan; polymyxin B; transposon mutagenesis; Immune response; protamine; Virulence; Transposons; Serotypes; Antimicrobial activity; Cecropin; Actinobacillus pleuropneumoniae

5/3,K/31 (Item 2 from file: 24) Links
Fulltext available through: USPTO Full Text Retrieval Options
CSA Life Sciences Abstracts

0002580336 IP Accession No: 5914077
Both ApxI and ApxII of Actinobacillus pleuropneumoniae serotype 1 are necessary for full virulence

Boekema, BKHL; Kamp, EM; Smits, MA; Smith, HE; Stockhofe-Zurwieden, N Division of Infectious Diseases and Food Chain Quality, Institute for Animal Science and Health, ID-Lelystad, P.O. Box 65, 8200 AB, Lelystad, The Netherlands, [mailto:b.k.h.l.boekema@bio.uu.nl]
Veterinary Microbiology , v 100 , n 1-2 , p 17-23 , May 2004
Publication Date: 2004
Publisher: Elsevier Science B.V., P.O. Box 211 Amsterdam 1000 AE Netherlands, [mailto:nlinfo-f@elsevier.nl], [URL:http://www.elsevier.nl/]

Document Type: Journal Article
Record Type: Abstract
Language: English
Summary Language: English
ISSN: 0378-1135
File Segment: Bacteriology Abstracts (Microbiology B)
Both ApxI and ApxII of Actinobacillus pleuropneumoniae serotype 1 are necessary for full virulence

Abstract:
Most serotypes of A. pleuropneumoniae produce more than one toxin in vivo. To determine the value of the production of... ...toxin in the development of disease, we tested the pathogenicity of isogenic strains of A. pleuropneumoniae serotype 1 that are mutated in the toxin genes apxIA and/or apxIIA or in the transport genes apxIBD. Bacteria mutated in both apxIA and apxIIA, or in apxIBD, were unable to induce pathological lesions, thereby... ...development of clinical and pathological symptoms. Only one of the four pigs inoculated with a mutant strain unable to produce ApxII developed mild pneumonia whereas two out of the three pigs inoculated with a mutant strain unable to produce ApxI developed more severe lesions. The results indicate that both ApxI and ApxII of A. pleuropneumoniae serotype 1 are necessary for full virulence.

Descriptors: Virulence; Pleuropneumonia; Mutants; Toxins; Pathogenicity; Actinobacillus pleuropneumoniae
Identifiers: apxI gene; apxII gene; pigs

5/3,K/32 (Item 3 from file: 24) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
CSA Life Sciences Abstracts

0002175129 IP Accession No: 4822470
Actinobacillus pleuropneumoniae iron transport and urease activity: Effects on bacterial virulence and host immune response

Baltes, N; Tonpitak, W; Gerlach, G-F*; Hennig-Pauka, I; Hoffmann-Moujahid, A; Ganter, M; Rothkotter, H-J Tieraerztliche Hochschule Hannover, Institut fuer Mikrobiologie und Tierseuchen, Bischofsholer Damm 15, 30173 Hanover, Germany, [mailto:gfgerlach@gmx.de]
Infection and Immunity , v 69 , n 1 , p 472-478 , January 2001
Publication Date: 2001

Document Type: Journal Article
Record Type: Abstract
Language: English
Summary Language: English
ISSN: 0019-9567
File Segment: Bacteriology Abstracts (Microbiology B); Immunology Abstracts
Actinobacillus pleuropneumoniae iron transport and urease activity: Effects on

bacterial virulence and host immune response

Abstract:
Actinobacillus pleuropneumoniae, a porcine respiratory tract pathogen, has been shown to express transferrin-binding proteins and urease during infection. Both activities have been associated with virulence; however, their functional role for infection has not yet been elucidated. We used two isogenic A. pleuropneumoniae single mutants (Delta exbB and Delta ureC) and a newly constructed A. pleuropneumoniae double (Delta ureC Delta exbB) mutant in aerosol infection experiments. Neither the A. pleuropneumoniae Delta exbB mutant nor the double Delta ureC Delta exbB mutant was able to colonize sufficiently long to initiate a detectable humoral immune response. These results... ...the ability to utilize transferrin-bound iron is required for multiplication and persistence of A. pleuropneumoniae in the porcine respiratory tract. The A. pleuropneumoniae Delta ureC mutant and the parent strain both caused infections that were indistinguishable from one another in the acute phase of disease; however, 3 weeks postinfection the A. pleuropneumoniae Delta ureC mutant, in contrast to the parent strain, could not be isolated from healthy lung tissue. In... ...cell sorter and enzyme-linked immunosorbent spot analyses - revealed a significantly higher number of A. pleuropneumoniae-specific B cells in the bronchoalveolar lavage fluid (BALF) of pigs infected with the A. pleuropneumoniae Delta ureC mutant than in the BALF of those infected with the parent strain. These results imply that A. pleuropneumoniae urease activity may cause sufficient impairment of the local immune response to slightly improve the persistence of the urease-positive A. pleuropneumoniae parent strain.

Descriptors: Mutants; Antibody response; Iron; Urease; Virulence; ureC gene; exbB gene; pigs; Transferrin-binding protein; Immune response (humoral); Enzyme-linked immunosorbent assay; Actinobacillus pleuropneumoniae; Actinobacillus pleuropneumoniae

5/3,K/33 (Item 4 from file: 24) Links
Fulltext available through: USPTO Full Text Retrieval Options

0002033520 IP Accession No: 4614964
Identification of in vivo induced genes in Actinobacillus pleuropneumoniae

Fuller, TE; Shea, RJ; Thacker, BJ; Mulks, MH Department of Microbiology, Michigan State University, East Lansing, MI 48824, U.S.A.
Microbial Pathogenesis , v 27 , n 5 , p 311-327 , November 1999
Publication Date: 1999
Publisher: Academic Press

Document Type: Journal Article
Record Type: Abstract
Language: English
Summary Language: English
ISSN: 0882-4010
File Segment: Bacteriology Abstracts (Microbiology B)
Identification of in vivo induced genes in Actinobacillus pleuropneumoniae

Abstract:
We have developed an in vivo expression technology (IVET) system to identify Actinobacillus pleuroIpneumoniae gene promoters that are specifically induced in vivo during infection. This system is based upon an avirulent riboflavin-requiring A. pleuroIpneumoniae mutant and a promoter-trap vector (pTF86) that contains, in sequence, the T4 terminator, a unique... ...cloned into the Bam HI site in pTF86 and transformed into the A. pleuroIpneumoniae Rib- mutant. Pigs were infected with pools of 300-600 transformants by endobronchial inoculation and surviving bacteria ... ...promoters which drove expression of the vector ribBAH genes and allowed survival of the Rib- mutant in vivo. Strains that survived in vivo, but which minimally expressed luciferase activity in vitro... ...amino acid sequence similarity as ilvI,

the ilvDA operon, the secE-nusG operon, and themrp gene. This is the first report of an IVET system for use in the family Pasteurellaceae...

Descriptors: Clones; Virulence; Pneumonia; Lung; Promoters; Actinobacillus pleuropneumoniae

5/3,K/34 (Item 5 from file: 24) Links
Fulltext available through: USPTO Full Text Retrieval Options
CSA Life Sciences Abstracts

0001564296 IP Accession No: 3840563
Molecular investigation of the role of ApxI and ApxII in the virulence of Actinobacillus pleuropneumoniae serotype 5

Reimer, D; Frey, J; Jansen, R; Veit, HP; Inzana, TJ* Cent. Mol. Med. and Infect. Dis., Virginia-Maryland Regional Coll. Vet. Med., Blacksburg, VA 24061, USA
Microbial Pathogenesis , v 18 , n 3 , p 197-209 , 1995
Addl. Source Info: Microbial Pathogenesis [MICROB. PATHOG.], vol. 18, no. 3, pp. 197-209, 1995
Publication Date: 1995

Document Type: Journal Article
Record Type: Abstract
Language: English
Summary Language: English
ISSN: 0882-4010
File Segment: Bacteriology Abstracts (Microbiology B); Toxicology Abstracts
Molecular investigation of the role of ApxI and ApxII in the virulence of Actinobacillus pleuropneumoniae serotype 5

Abstract:
The extracellular hemolytic toxins (ApxI and ApxII) of Actinobacillus pleuropneumoniae are thought to be important factors in this microorganism's virulence and the pathogenesis of swine pleuropneumonia. Using the polymerase chain reaction, the apxI locus of a non-hemolytic, avirulent mutant of A. pleuropneumoniae serotype 5 (mIT4-H) generated by chemical mutagenesis was found to contain deletions that affected major parts of the entire apxICABD operon, thus inactivating each gene in the operon. The apxII locus was not affected. Monoclonal antibodies to ApxI and ApxII... ...was required to induce lesions similar to those caused by mIT4-H/pJFF800. Thus, A. pleuropneumoniae strains that produce ApxI and ApxII require ApxI for full virluence and toxic activity in pigs. However, other factors including ApxII contribute to the virulence of A. pleuropneumoniae in pigs.

Descriptors: virulence; pleuropneumonia; pathogenesis; toxins; genes; operons; hemolysins; Actinobacillus pleuropneumoniae

5/3,K/35 (Item 1 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

16071908 Genuine Article#: 131JQ No. References: 43
Characterization of the urease operon of Brucella abortus and assessment of its role in virulence of the bacterium

Author: Sangari FJ; Seoane A; Rodriguez MC; Aguero J; Lobo JMG (REPRINT)
Corporate Source: Univ Cantabria,Dept Biol Mol, Fac Med,C Cardenal Herrera Oria S-N/Santander 39011//Spain/ (REPRINT); Univ Cantabria,Dept Biol Mol, Fac Med,Santander 39011//Spain/; Hosp Univ Marques Valdecilla,Microbiol Serv,Santander//Spain/
Journal: INFECTION AND IMMUNITY , 2007 , V 75 , N2 (FEB) , P 774-780

ISSN: 0019-9567 Publication date: 20070200
Publisher: AMER SOC MICROBIOLOGY , 1752 N ST NW, WASHINGTON, DC 20036-2904 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Characterization of the urease operon of Brucella abortus and assessment of its role in virulence of the bacterium
Abstract: ...enzyme in the pathogenesis of Brucella infections is poorly understood. We isolated several Tn5 insertion mutants deficient in urease activity from Brucella abortus strain 2308. The mutations of most of these mutants mapped to a 5.7-kbp DNA region essential for urease activity. Sequencing of this... ...the accessory proteins (UreD, UreE, UreF, and UreG). In addition to the urease genes, another gene (cobT) was identified, and inactivation of this gene affected urease activity in Brucella. Subsequent analysis of the previously described sequences of the genomes... ...in all them. The ure2 locus was apparently inactive in B. abortus 2308. Urease-deficient mutants were used to evaluate the role of urease in Brucella pathogenesis. The urease-producing strains... ...resistant in vitro to strong acid conditions in the presence of urea, while urease-negative mutants were susceptible to acid treatment. Similarly, the urease-negative mutants were killed more efficiently than the urease-producing strains during transit through the stomach. These ...
Identifiers-- ...GRAM-NEGATIVE BACTERIA; YERSINIA-ENTEROCOLITICA; ACTINOBACILLUS-PLEUROPNEUMONIAE; HELICOBACTER-PYLORI; PROTEUS-MIRABILIS; EPITHELIAL-CELLS; GENOME SEQUENCE; SUICIDE VECTORS; URINARY-TRACT; ACID

5/3,K/36 (Item 2 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

15674328 Genuine Article#: 094LZ No. References: 62
A subset of Actinobacillus pleuropneumoniae in vivo induced promoters respond to branched-chain amino acid limitation

Author: Wagner TK; Mulks MH (REPRINT)
Corporate Source: Michigan State Univ,Dept Microbiol & Mol Genet,Biomed & Phys Sci Bldg 5193/E Lansing//MI/48824 (REPRINT); Michigan State Univ,Dept Microbiol & Mol Genet,E Lansing//MI/48824 (mulks@msu.edu)
Journal: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY , 2006 , V 48 , N2 (NOV) , P 192-204
ISSN: 0928-8244 Publication date: 20061100
Publisher: BLACKWELL PUBLISHING , 9600 GARSINGTON RD, OXFORD OX4 2DQ, OXON, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
A subset of Actinobacillus pleuropneumoniae in vivo induced promoters respond to branched-chain amino acid limitation
Abstract: Actinobacillus pleuropneumoniae is the causative agent of a necrotizing hemorrhagic pleuropneumonia in swine. In this study, we... ...the possibility that the limitation of branched-chain amino acids is a stimulus that A. pleuropneumoniae will encounter during infection and will respond to by up-regulation of genes involved in branched-chain amino acid biosynthesis and virulence. Actinobacillus pleuropneumoniae genetic loci that are specifically induced during infection were screened in vitro for expression in... ...context of each clone and discuss its relevance to branched-chain amino acid limitation and virulence. We conclude that limitation of branched-chain amino acids is a cue for expression of... ...acids may be one of an array of environmental cues responsible for the induction of virulence-associated genes in A. pleuropneumoniae.
Identifiers-- ...SIGNATURE-TAGGED MUTAGENESIS; HAEMOPHILUS-INFLUENZAE RD; MULTOCIDA GENE-EXPRESSION; MYCOBACTERIUM-BOVIS BCG; LARGE VIRULENCE PLASMID; GENOMIC-SCALE ANALYSIS; CAPSULAR POLYSACCHARIDE; ESCHERICHIA-COLI; TRANSPOSON MUTAGENESIS; PSEUDOMONAS-AERUGINOSA

5/3,K/37 (Item 3 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

15477944 Genuine Article#: 075AU No. References: 32
Production of a D-glycero-D-manno-heptosyltransferase mutant of Mannheimia haemolytica displaying a veterinary pathogen specific conserved LPS structure; development and functionality of antibodies to this LPS structure

Author: Logan SM; Chen W; Aubry A; Gidney MAJ; Lacelle S; Michael FS; Kuolee R; Higgins M; Neufeld S; Cox AD (REPRINT)
Corporate Source: Natl Res Council Canada,Inst Biol Sci,100 Sussex Dr/Ottawa/ON K1A 0R6/Canada/ (REPRINT); Natl Res Council Canada,Inst Biol Sci,Ottawa/ON K1A 0R6/Canada/ (Andrew.Cox@nrc-cnrc.gc.ca)
Journal: VETERINARY MICROBIOLOGY , 2006 , V 116 , N1-3 (AUG 25) , P 175-186
ISSN: 0378-1135 Publication date: 20060825
Publisher: ELSEVIER SCIENCE BV , PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Production of a D-glycero-D-manno-heptosyltransferase mutant of Mannheimia haemolytica displaying a veterinary pathogen specific conserved LPS structure; development and functionality of...
Abstract: Previous structural studies of the lipopolysaccharides, from the veterinary pathogens Mannheimia haemolytica (Mh), Actinobacillus pleuropneumoniae (Ap) and Pasteurella multocida (Pm) had identified a conserved inner core oligosaccharide structure that was... ...In order to examine the potential of this inner core structure as a vaccine, a mutagenesis strategy was adopted to interrupt a D-glycero-D-manno-heptosyltransferase gene (losB) of Mh. This gene encodes the enzyme responsible for the addition of a D-glycero-D-manno-heptose residue... ...and its inactivation exposed the conserved inner core structure as a terminal unit on the mutant LPS molecule. Subsequent analyses confirmed the targeted structure of the mutant LPS had been obtained, and complementation with losB! in trans confirmed that the losB gene encodes an alpha-1, 6-D-glycero-D-manno-heptosyltransferase. Monoclonal antibodies raised in mice to this LPS structure were found to recognise LPS and whole-cells of the truncated mutant and wild-type Mh. The antibodies were bactericidal against a wild-type Mh strain and...
Identifiers-- ...CORE LIPOPOLYSACCHARIDE EPITOPE; PASTEURELLA-HAEMOLYTICA; NEISSERIA-MENINGITIDIS; PNEUMONIC PASTEURELLOSIS; MONOCLONAL-ANTIBODIES; MULTOCIDA; MICE; PROTECTION; IDENTIFICATION; VIRULENCE

5/3,K/38 (Item 4 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

14191270 Genuine Article#: 949BT No. References: 34
Deletion of the anaerobic regulator HlyX causes reduced colonization and persistence of Actinobacillus pleuropneumoniae in the porcine respiratory tract

Author: Baltes N (REPRINT) ; N'diaye M; Jacobsen ID; Maas A; Buettner FFR; Baltes N
Corporate Source: Stifung Tierarztl Hsch Hannover,Zentrum Infekt Med, Inst Mikrobiol,Bischofsholer Damm 15/D-30173 Hannover//Germany/ (REPRINT); Univ Vet Med Hannover,Inst Microbiol, Dept Infect Dis,D-30173 Hannover//Germany/ (nbaltes@gmx.de)
Journal: INFECTION AND IMMUNITY , 2005 , V 73 , N8 (AUG) , P 4614-4619
ISSN: 0019-9567 Publication date: 20050800
Publisher: AMER SOC MICROBIOLOGY , 1752 N ST NW, WASHINGTON, DC 20036-2904 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Deletion of the anaerobic regulator HlyX causes reduced colonization and persistence of Actinobacillus pleuropneumoniae in the porcine respiratory tract
Abstract: Actinobacillus pleuropneumoniae, the etiological agent of porcine pleuropneumonia, is able to persist on respiratory epithelia, in tonsils... ...here investigates the role of HIyX, the fumarate nitrate reductase regulator (FNR) homologue of A. pleuropneumoniae. By constructing an isogenic A. pleuropneumoniae hlyX mutant, the HlyX protein is shown to be responsible for upregulated expression of both DMSO reductase and aspartate ammonia lyase (AspA) under anaerobic

conditions. In a challenge experiment the A. pleuropneumoniae hlyX mutant is shown to be highly attenuated, unable to persist in healthy lung epithelium and tonsils, and impaired in survival inside sequestered lung tissue. Further, using an A. pleuropneumoniae strain carrying the luxAB genes as transcriptional fusion to aspA on the chromosome, the airway antioxidant glutathione was identified as one factor potentially responsible for inducing HlyX-dependent gene expression of A. pleuropneumoniae in epithelial lining fluid.
Identifiers-- ...ESCHERICHIA-COLI; GENE-EXPRESSION; FNR FUNCTION; GLUTATHIONE; VIRULENCE; PROTEIN; INFECTION; IDENTIFICATION; PLASMID; CLONING

5/3,K/39 (Item 5 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

13573877 Genuine Article#: 895PI No. References: 18
Construction and characterization of a live, attenuated apxIICA inactivation mutant of Actinobacillus pleuropneumoniae lacking a drug resistance marker

Author: Bei WC; He QG; Yan L; Fang LR; Tan YD; Xiao SB; Zhou R; Jin ML; Guo AZ; Lv JQ; Huang HL; Chen HC (REPRINT)
Corporate Source: Huazhong Agr Univ,Coll Anim Sci & Vet Med, State Key Lab Agr Microbiol, Lab Anim Infect Dis,Wuhan 430070/Hubei/Peoples R China/ (REPRINT); Huazhong Agr Univ,Coll Anim Sci & Vet Med, State Key Lab Agr Microbiol, Lab Anim Infect Dis,Wuhan 430070/Hubei/Peoples R China/ (beiweic@163.com; hzauvet@public.wh.hb.cn)
Journal: FEMS MICROBIOLOGY LETTERS , 2005 , V 243 , N1 (FEB 1) , P 21-27
ISSN: 0378-1097 Publication date: 20050201
Publisher: ELSEVIER SCIENCE BV , PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Construction and characterization of a live, attenuated apxIICA inactivation mutant of Actinobacillus pleuropneumoniae lacking a drug resistance marker
Abstract: The apxIIC gene of Actinobacillus pleuropneumoniae serotype 7 was inactivated by homologous recombination using a sucrose counter-selectable marker system, resulting in a mutant strain that had no antibiotic resistance marker and expressed an inactivated ApxII toxin. The safety and immunogenicity of the mutant were evaluated in mice. The mutant strain caused no adverse effects in mice at doses up to 2 x 10(9... ...total mortality at a dose of 2 x 107 CFU. Mice vaccinated intraperitoneally with the mutant strain had 100% and 70%, protection against homologous (serotype 7) or heterologous (serotype I 3) challenge with A. pleuropneumoniae, respectively. The A. pleuropneumoniae mutant strain HB04C(-) and the counterselection method used in the study show promise in developing effective...
Identifiers-- ...VIRULENCE; PROTECTION; MICE; VACCINATION; SEROTYPE-1; INFECTION

5/3,K/40 (Item 6 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

13381850 Genuine Article#: 874CR No. References: 22
Risk assessment of transmission of capsule-deficient, recombinant Actinobacillus pleuropneumoniae

Author: Inzana TJ (REPRINT) ; Glindemann G; Fenwick B; Longstreth J; Ward D
Corporate Source: Virginia Tech,Virginia Maryland Reg Coll Vet Med, Ctr Mol Med & Infect Dis,1410 Prices Fork Rd/Blacksburg//VA/24061 (REPRINT); Virginia Tech,Virginia Maryland Reg Coll Vet Med, Ctr Mol Med & Infect Dis,Blacksburg//VA/24061; Kansas State Univ,Coll Vet Med,Manhattan//KS/66506; Inst Global Risk Res LLC,Bethesda//MD/20817 (tinzana@vt.edu)
Journal: VETERINARY MICROBIOLOGY , 2004 , V 104 , N1-2 (NOV 30) , P 63-71
ISSN: 0378-1135 Publication date: 20041130
Publisher: ELSEVIER SCIENCE BV , PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Risk assessment of transmission of capsule-deficient, recombinant Actinobacillus pleuropneumoniae
Abstract: Actinobacillus pleuropneumoniae is the etiologic agent of swine pleuropneumonia. Live, non-encapsulated vaccine strains have been shown... ...in preventing acute disease in pigs. Recombinant DNA technology has the advantage of generating defined mutants that are safe, but maintain critical immunoprotective components. However, some recombinant strains have the disadvantage... ...animal's normal bacterial flora. Using DNA allelic exchange we have constructed attenuated, capsule-deficient mutants of A. pleuropneumoniae that contain a kanamycin resistance (Kn(R)) gene within the capsule locus of the genome. Following intranasal or intratracheal challenge of pigs the... ...colonized the challenge pigs, and were transmitted to contact pigs. In contrast, the capsule-deficient mutants were recovered only from the challenged pigs and not from contact pigs. Each kanamycin-resistant... ...challenged with the recombinant strain was screened with a probe specific for the Kn(R) gene. All probe-positive colonies were assayed for the specific Kn(R) gene by amplification of a 0.9 kb fragment of the antibiotic resistance gene by PCR. The 0.9 kb fragment was amplified from the recombinant A. pleuropneumoniae colonies, but not from any of the heterologous bacteria, indicating there was no evidence of transmission of the Kn(R) gene to resident bacteria. Following aerosol exposure of 276 pigs with recombinant, non-encapsulated A. pleuropneumoniae the recombinant bacteria were not recovered from any nasal swabs of 75 pigs tested or... ...the number of kanamycin-resistant colonies screened, indicated that undetected transmission of the Kn(R) gene could still have occurred in at most 1.36% of kanamycin-resistant bacteria in contact with recombinant A. pleuropneumoniae. However, the overall risk of transmission to any resident bacteria was far lower. Our results indicate there was little risk of transmission of capsule-deficient, recombinant A. pleuropneumoniae or its Kn(R) gene to contact pigs or to the resident microflora. (C) 2004 Elsevier B.V. All rights...
Identifiers-- ...AEROSOL TRANSMISSION; RESISTANT SALMONELLA; ANIMALS; PIGS; VIRULENCE; HUMANS; FOOD; CAMPYLOBACTER; MUTAGENESIS; ENTEROCOCCI

5/3,K/41 (Item 7 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

12709858 Genuine Article#: 812BQ No. References: 18
Harnessing natural transformation in Actinobacillus pleuropneumoniae : a simple method for allelic replacements

Author: Bosse JT (REPRINT) ; Nash JHE; Kroll JS; Langford PR
Corporate Source: Univ London Imperial Coll Sci Technol & Med,Fac Med, Dept Paediat, Mol Infect Dis Grp,St Marys Campus,Norfolk Pl/London W2 1PG//England/ (REPRINT) ; Univ London Imperial Coll Sci Technol & Med,Fac Med, Dept Paediat, Mol Infect Dis Grp,London W2 1PG//England/; Natl Res Council Canada,Inst Biol Sci, Pathogen Genom Grp,Ottawa/ON K1A 0R6/Canada/
Journal: FEMS MICROBIOLOGY LETTERS , 2004 , V 233 , N2 (APR 15) , P 277-281
ISSN: 0378-1097 Publication date: 20040415
Publisher: ELSEVIER SCIENCE BV , PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Harnessing natural transformation in Actinobacillus pleuropneumoniae : a simple method for allelic replacements
Abstract: We have investigated the use of a natural transformation protocol to introduce mutations into Actinobacillus pleuropneumoniae serotypes 1 and 5b. For both strains tested, we recovered 1 in 10(8) transformants... ...result that was independent of the growth phase. This low frequency of transformation of A. pleuropneumoniae did not increase when bacteria were grown under conditions known to be optimal for induction... ...in Haemophilus influenzae. Using linearised plasmid DNA containing a kanamycin cassette inserted into the sodC gene of A. pleuropneumoniae serotype 1, we showed that natural transformation can be used as a simple method for introducing allele replacements into this bacterium, and can be used to transfer mutations from one serotype to another. (C) 2004 Federation of

European Microbiological Societies. Published by Elsevier...
Identifiers-- ...HAEMOPHILUS-INFLUENZAE; COMPETENCE DEVELOPMENT; DNA UPTAKE; MUTAGENESIS; SEROTYPE-1; INFECTION; SWINE; GENE; IDENTIFICATION; VIRULENCE

5/3,K/42 (Item 8 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

11771630 Genuine Article#: 694WB No. References: 105
Identification of Actinobacillus pleuropneumoniae genes important for survival during infection in its natural host

Author: Sheehan BJ; Bosse JT; Beddek AJ; Rycroft AN; Kroll JS; Langford PR (REPRINT)

Corporate Source: Univ London Imperial Coll Sci Technol & Med,Dept Paediat,St Marys Campus/London W2 1PG//England/ (REPRINT); Univ London Imperial Coll Sci Technol & Med,Dept Paediat,London W2 1PG//England/; Univ London Royal Vet Coll,Dept Pathol & Infect Dis,Hatfield AL9 7TA/Herts/England/
Journal: INFECTION AND IMMUNITY , 2003 , V 71 , N7 (JUL) , P 3960-3970
ISSN: 0019-9567 Publication date: 20030700
Publisher: AMER SOC MICROBIOLOGY , 1752 N ST NW, WASHINGTON, DC 20036-2904 USA
Language: English Document Type: REVIEW (ABSTRACT AVAILABLE)
Identification of Actinobacillus pleuropneumoniae genes important for survival during infection in its natural host
Abstract: Actinobacillus pleuropneumoniae is a strict respiratory tract pathogen of swine and is the causative agent of porcine pleuropneumonia. We have used signature-tagged mutagenesis (STM) to identify genes required for survival of the organism within the pig. A total of 2,064 signature-tagged Tn10 transposon mutants were assembled into pools of 48 each, and used to inoculate pigs by the endotracheal route. Out of 105 mutants that were consistently attenuated in vivo, only 11 mutants showed a >2-fold reduction in growth in vitro compared to the wild type, whereas 8 of 14 mutants tested showed significant levels of attenuation in pig as evidenced from competitive index experiments. Inverse... ...DNA sequence of the chromosomal domains flanking each transposon insertion. Only one sibling pair of mutants was identified, but three apparent transposon insertion hot spots were found-an anticipated consequence of... ...involved in metabolism and transport of various nutrients or unknown substances, in stress responses, in gene regulation, and in the production of cell surface components. Ten of the sequences have homology ... ...genes involved in energy metabolism, nutrient uptake and stress responses for the survival of A. pleuropneumoniae in its natural host: the pig.
Identifiers-- ...SIGNATURE-TAGGED MUTAGENESIS; MESSENGER-RNA DEGRADATION; OUTER-MEMBRANE PROTEIN; ESCHERICHIA-COLI-CELLS; SHOCK SIGMA-FACTOR; HAEMOPHILUS-INFLUENZAE; SALMONELLA-TYPHIMURIUM; TRANSPORT-SYSTEM; VIRULENCE GENES; VIBRIO-CHOLERAE

5/3,K/43 (Item 9 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

11688868 Genuine Article#: 682WX No. References: 59
Association of Actinobacillus pleuropneumoniae capsular polysaccharide with virulence in pigs

Author: Bandara AB; Lawrence ML; Veit HP; Inzana TJ (REPRINT)
Corporate Source: Virginia Polytech Inst & State Univ,CMMID, VA MD Reg Coll Vet Med,1410 Prices Fork Rd/Blacksburg//VA/24061 (REPRINT); Virginia Polytech Inst & State Univ,CMMID, VA MD Reg Coll Vet Med,Blacksburg//VA/24061; Mississippi State Univ,Coll Vet Med, Dept Basic Sci,Mississippi State//MS/39762
Journal: INFECTION AND IMMUNITY , 2003 , V 71 , N6 (JUN) , P 3320-3328

ISSN: 0019-9567 Publication date: 20030600
Publisher: AMER SOC MICROBIOLOGY , 1752 N ST NW, WASHINGTON, DC 20036-2904 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Association of Actinobacillus pleuropneumoniae capsular polysaccharide with virulence in pigs
Abstract: The capsular polysaccharide (CP) of Actinobacillus pleuropnetunoniae is required for virulence of the bacteria in swine. However, a molecular investigation of whether the type or quantity of CP affects A. pleuropneumoniae virulence has not been reported. To initiate this investigation, a DNA region downstream of conserved genes required for CP export in A. pleuropneumoniae serotype 1 was cloned and sequenced. Three open reading frames, designated cps1A, cps1B, and cps1C... ...deletion in cps1B only, and the constructs were cloned in a suicide vector. The Kanr gene was then transferred into the chromosome of strain 4074 by homologous recombination to produce strain... ...produced by strain 4074. With intratracheal challenge in pigs at similar dosages, the order of virulence of strains producing serotype 1 CP (assessed by mortality, lung consolidation, hemorrhage, and fibrinous pleuritis... ...Therefore, the amount of serotype 1 or 5a CP produced by isogenic strains of A. pleuropneumoniae correlated with the virulence of the bacteria in pigs. However, virulence was also influenced by the type of CP produced or by its mechanism of expression.
Identifiers-- ...GRAM-NEGATIVE BACTERIA; ESCHERICHIA-COLI; HAEMOPHILUS PLEUROPNEUMONIAE; SEROTYPE 5A; MUTAGENESIS; COMPLEMENT; RESISTANCE; INFECTION; STRAINS; MUTANT

5/3,K/44 (Item 10 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

11526485 Genuine Article#: 664NZ No. References: 51
Phenotypic mutants of the intracellular actinomycete Rhodococcus equi created by in vivo Himar1 transposon mutagenesis

Author: Ashour J; Hondalus MK (REPRINT)
Corporate Source: Harvard Univ,Sch Publ Hlth, Dept Immunol & Infect Dis,665 Huntington Ave/Boston//MA/02115 (REPRINT); Harvard Univ,Sch Publ Hlth, Dept Immunol & Infect Dis,Boston//MA/02115
Journal: JOURNAL OF BACTERIOLOGY , 2003 , V 185 , N8 (APR) , P 2644-2652
ISSN: 0021-9193 Publication date: 20030400
Publisher: AMER SOC MICROBIOLOGY , 1752 N ST NW, WASHINGTON, DC 20036-2904 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Phenotypic mutants of the intracellular actinomycete Rhodococcus equi created by in vivo Himar1 transposon mutagenesis
Abstract: ...of R. equi disease in horses. Toward that end, we have developed an efficient transposon mutagenesis system that makes use of a Himar1 minitransposon delivered by a conditionally replicating plasmid for construction of R. equi mutants. We show that Himar1 transposition in R. equi is random and needs no apparent consensus... ...was demonstrated by the ease with which we were able to screen for auxotrophs and mutants with pigmentation and capsular phenotypes. One of the pigmentation mutants contained an insertion in a gene encoding phytoene desaturase, an enzyme of carotenoid biosynthesis, the pathway necessary for production of the characteristic salmon color of R. equi. We identified an auxotrophic mutant with a transposon insertion in the gene encoding a putative dual-functioning GTP cyclohydrolase II-3,4-dihydroxy-2-butanone-4-phosphate synthase, an enzyme essential for riboflavin biosynthesis. This mutant cannot grow in minimal medium in the absence of riboflavin supplementation. Experimental murine infection studies showed that, in contrast to wild-type R. equi, the riboflavin-requiring mutant is attenuated because it is unable to replicate in vivo. The mutagenesis methodology we have developed will allow the characterization of R. equi virulence mechanisms and the creation of other attenuated strains with vaccine potential.
Identifiers-- ...MYCOBACTERIUM-TUBERCULOSIS; IN-VITRO; ACTINOBACILLUS-

PLEUROPNEUMONIAE; CAROTENOID BIOSYNTHESIS; SALMONELLA-TYPHIMURIUM; INSERTION MUTAGENESIS; RIBOFLAVIN AUXOTROPH; VIRULENCE PLASMIDS; ESCHERICHIA-COLI; GENE

5/3,K/45 (Item 11 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

11497173 Genuine Article#: 658QN No. References: 46
Role of suilysin in pathogenesis of Streptococcus suis capsular serotype 2

Author: Lun SC; Perez-Casal J; Connor W; Willson PJ (REPRINT)
Corporate Source: Univ Saskatchewan,Vet Infect Dis Org,120 Vet Rd/Saskatoon/SK S7N 5E3/Canada/ (REPRINT); Univ Saskatchewan,Vet Infect Dis Org,Saskatoon/SK S7N 5E3/Canada/
Journal: MICROBIAL PATHOGENESIS , 2003 , V 34 , N1 (JAN) , P 27-37
ISSN: 0882-4010 Publication date: 20030100
Publisher: ACADEMIC PRESS LTD ELSEVIER SCIENCE LTD , 24-28 OVAL RD, LONDON NW1 7DX, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Abstract: Three suilysin (SLY) knockout mutant strains of Streptococcus suis serotype 2 were generated by allelic replacement from one North American and two European wild type strains. The mutants were characterized by Southern blot, Western blot and phenotyping. In vitro bactericidal testing showed that both wild type and SLY mutants were resistant to bactericidal factors in whole pig blood. To demonstrate the role of SLY... ...one trial, a low challenge dose of North American strain SX332 and its isogenic sly(-) mutant strain (SX932) resulted in acute disease in 3/5 of pigs exposed to the wild type strain, while 5/5 of pigs exposed to the mutant strain survived the trial. In the repeat trial, 1/8 of pigs in wild type group and 6/8 of pigs in mutant group developed disease. The high dose trial with 332/932 pair showed that 4/8 pigs challenged with wild type and 5/8 of pigs challenged with mutant strain developed disease respectively. The third low dose trial, using European strain 31533 and its isogenic sly(-) mutant strain SX911, showed that 1/8 of pigs challenged with the wild type strain and 4/8 of pigs challenged with the corresponding mutant strain developed disease. All the diseased pigs showed fever, clinical signs and developed septicemia. S... ...the antibody titer against SLY increased only in the wild type group after challenge. sly gene was cloned and expressed in E. coli. The recombinant SLY (rSLY) protein showed 800 hemolysin... ...the results of this study suggest that SLY does not seem to be a critical virulence factor for S. suis serotype 2 respiratory infection, but by stimulating cytokine release it may...
Identifiers-- ...THIOL-ACTIVATED HEMOLYSIN; GERM-FREE PIGS; ACTINOBACILLUS-PLEUROPNEUMONIAE; IN-VITRO; TYPE-2; VIRULENCE; PROTEIN; PHAGOCYTOSIS; EXPRESSION; MUTANTS

5/3,K/46 (Item 12 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options Blackwell Publishing
SciSearch(R) Cited Ref Sci

10932120 Genuine Article#: 585KJ No. References: 39
The Yersinia pseudotuberculosis Yut protein, a new type of urea transporter homologous to eukaryotic channels and functionally interchangeable in vitro with the Helicobacter pylori UreI protein

Author: Sebbane F; Bury-Mone S; Cailliau K; Browaeys-Poly E; De Reuse H; Simonet M (REPRINT)
Corporate Source: Inst Biol Lille,INSERM E9919, Dept Pathogenese Maladies Infect,1 Rue Professeur Calmette/F-59021 Lille//France/ (REPRINT); Inst Biol Lille,INSERM E9919, Dept Pathogenese Maladies Infect,F-59021 Lille//France/ ; Inst Pasteur,Unite Pathogenie Bacterienne Muqueuses,F-75724 Paris//France/; Univ Sci & Technol Lilles,Dev Biol Lab, UPRES EA 1033,F-59655 Villeneuve Dascq//France/

Journal: MOLECULAR MICROBIOLOGY , 2002 , V 45 , N4 (AUG) , P 1165-1174
ISSN: 0950-382X Publication date: 20020800
Publisher: BLACKWELL PUBLISHING LTD , P O BOX 88, OSNEY MEAD, OXFORD OX2 0NE, OXON, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Abstract: ...to acidity or as a nitrogen source. In Yersinia pseudotuberculosis, a ureolytic enteropathogenic bacterium, a gene of unknown function (yut) located near the urease locus was found to encode a putative... ...the mouse model, bacterial colonization of the intestine mucosa is delayed with the Yut-deficient mutant. Although structurally unrelated, Yut and the Helicobacter pylori UreI urea channel were shown to be... ...function in the respective parent organisms. Homologues of Yut were found in other yersiniae, Actinobacillus pleuropneumoniae, Brucella melitensis, Pseudomonas aeruginosa and Staphylococcus aureus. The Y. pseudotuberculosis Yut protein is therefore the...
Identifiers-- ...ESCHERICHIA-COLI; GENOME SEQUENCE; SUICIDE VECTOR; SYSTEM; VIRULENCE; MICE; TRANSFORMATION; COLONIZATION; CONSTRUCTION; MUTAGENESIS

5/3,K/47 (Item 13 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

09228681 Genuine Article#: 381VN No. References: 28
Molecular characterization of the hlyX-like gene of Actinobacillus actinomycetemcomitans Y4

Author: Kokeguchi S; Hirosue M; Maeda H; Miyamoto M; Takashiba S; Murayama Y (REPRINT)
Corporate Source: OKAYAMA UNIV,SCH DENT, DEPT PERIODONTOL & ENDODONTOL, 2-5-1 SHIKATA CHO/OKAYAMA 7008525//JAPAN/ (REPRINT); OKAYAMA UNIV,SCH DENT, DEPT PERIODONTOL & ENDODONTOL/OKAYAMA 7008525//JAPAN/
Journal: RESEARCH IN MICROBIOLOGY , 2000 , V 151 , N9 (NOV) , P 721-725
ISSN: 0923-2508 Publication date: 20001100
Publisher: EDITIONS SCIENTIFIQUES MEDICALES ELSEVIER , 23 RUE LINOIS, 75724 PARIS CEDEX 15, FRANCE
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Molecular characterization of the hlyX-like gene of Actinobacillus actinomycetemcomitans Y4
Abstract: We isolated and characterized a possible regulatory gene, designated actX gene, from Actinobacillus actinomyctemcomitans Y4, which defined the Actinobacillus pleuropneumoniae hlyX-like regulatory gene. DNA sequence analysis for plasmid clone pKM317 containing a 1.6-kb DNA insert indicated... ...binding residue in the C-terminal region, indicating that actX might belong to a regulatory gene family. Escherichia coli DH5 alpha and a mutant strain JRG1728 transformed by plasmid carrying actX manifested apparent hemolytic activity on sheep blood agar...
Identifiers-- ...ESCHERICHIA-COLI; TRANSCRIPTIONAL REGULATOR; VIRULENCE FACTORS; SEQUENCE-ANALYSIS; FNR PROTEIN; EXPRESSION; CLONING; PLEUROPNEUMONIAE; SPUTIGENA; OXYGEN

5/3,K/48 (Item 14 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

09009159 Genuine Article#: 355VG No. References: 57
Functional and crystallographic characterization of Salmonella typhimurium Cu,Zn superoxide dismutase coded by the sodCI virulence gene

Author: Pesce A; Battistoni A; Stroppolo ME; Polizio F; Nardini M; Kroll JS; Langford PR; ONeill P; Sette M; Desideri A (REPRINT) ; Bolognesi M
Corporate Source: INFM,VIA RIC SCI/I-00133 ROME//ITALY/ (REPRINT); INFM,/I-00133 ROME//ITALY/ ; UNIV ROMA TOR VERGATA,DEPT BIOL/I-00133 ROME//ITALY/; UNIV ROMA TOR VERGATA,DEPT CHEM SCI & TECHNOL/I-00133 ROME//ITALY/; INFM,DEPT PHYS/I-16132

GENOA//ITALY/; UNIV GENOA,IST, ADV BIOTECHNOL CTR/I-16132 GENOA//ITALY/; UNIV LONDON IMPERIAL COLL SCI TECHNOL & MED,ST MARYS HOSP, SCH MED, DEPT PAEDIAT/LONDON W2 1PG//ENGLAND/; MRC,RADIOBIOL UNIT/DIDCOT OX11 0RD/OXON/ENGLAND/; UNIV GRONINGEN,BIOPHYS CHEM LAB/NL-9747 AG GRONINGEN//NETHERLANDS/; UNIV GRONINGEN,BIOSON RES INST, DEPT CHEM/NL-9747 AG GRONINGEN//NETHERLANDS/
Journal: JOURNAL OF MOLECULAR BIOLOGY , 2000 , V 302 , N2 (SEP 15) , P 465-478
ISSN: 0022-2836 Publication date: 20000915
Publisher: ACADEMIC PRESS LTD , 24-28 OVAL RD, LONDON NW1 7DX, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Functional and crystallographic characterization of Salmonella typhimurium Cu,Zn superoxide dismutase coded by the sodCI virulence gene
Abstract: ...three-dimensional structural features of Cu,Zn superoxide dismutase coded by the Salmonella typhimurium sodCI gene, have been characterized. Measurements of the catalytic rate indicate that this enzyme is the most... ...so far, a feature that may be related to the exclusive association of the sodCI gene with the most pathogenic Salmonella serotypes. The enzyme active-site copper ion is highly accessible... ...However, when compared to the structures of the homologous enzymes from Photobacterium leiognathi and Actinobacillus pleuropneumoniae, the subunit interface of Salmonella Cu,Zn superoxide dismutase shows substitution of 11 out of...
Identifiers-- ...ESCHERICHIA-COLI; ACTIVE-SITE; PHOTOBACTERIUM-LEIOGNATHI; IMIDAZOLATE BRIDGE; BRUCELLA-ABORTUS; CHARGED RESIDUES; COPPER; ENZYME; MUTANTS; CU

5/3,K/49 (Item 15 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

08753994 Genuine Article#: 326AT No. References: 47
Inactivation of Pasteurella (Mannheimia) haemolytica leukotoxin causes partial attenuation of virulence in a calf challenge model

Author: Highlander SK (REPRINT) ; Fedorova ND; Dusek DM; Panciera R; Alvarez LE; Rinehart C
Corporate Source: BAYLOR COLL MED,DEPT MOL VIROL & MICROBIOL, 1 BAYLOR PLAZA, BCM 280/HOUSTON//TX/77030 (REPRINT); BOEHRINGER INGELHEIM VETMEDICA INC,DEPT BIOL RES & DEV, BOVINE BUSINESS UNIT/ST JOSEPH//MO/64506; OKLAHOMA STATE UNIV,COLL VET MED, DEPT ANAT PHARMACOL & PATHOL/STILLWATER//OK/74078
Journal: INFECTION AND IMMUNITY , 2000 , V 68 , N7 (JUL) , P 3916-3922
ISSN: 0019-9567 Publication date: 20000700
Publisher: AMER SOC MICROBIOLOGY , 1752 N ST NW, WASHINGTON, DC 20036-2904
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Inactivation of Pasteurella (Mannheimia) haemolytica leukotoxin causes partial attenuation of virulence in a calf challenge model
Abstract: ...pathology characteristic of bovine shipping fever. Using a system for Cre-lox recombination, a nonpolar mutation within the lktC transacylase gene of the leukotoxin operon was created. The lktC locus was insertionally inactivated using a loxP... ...secretes inactive leukotoxin and carries no known antibiotic resistance genes. Strain SH2099 was tested for virulence in a calf challenge model. We inoculated 3 x 10(8) or 3 x 10(9) CFU of wild-type or mutant bacteria into the lungs of healthy, colostrum-deprived calves via transthoracic injection. Animals were observed... ...and compared, while the 3 x 109 CFU dose of either the wild-type or mutant was lethal to greater than or equal to 50% of the calves, The estimated 50... ...the wild-type strain. Lung lesion scores were reduced twofold in animals inoculated with the mutant, while clinical scares were nearly equivalent for both strains. The wild-type and mutant strains were equally capable of colonizing the upper respiratory tracts of the calves, In this study, the P, haemolytica lktC mutant was shown to be less virulent than the parent strain.
Identifiers-- ...SITE-SPECIFIC RECOMBINATION; BOVINE PNEUMONIC PASTEURELLOSIS; ESCHERICHIA-COLI HEMOLYSIN; ACTINOBACILLUS-PLEUROPNEUMONIAE; A1-DERIVED ENDOTOXIN; RTX TOXINS; EXPRESSION; MUTANT; LEUKOCYTES; CELLS

5/3,K/50 (Item 16 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

08680411 Genuine Article#: 316LF No. References: 38
The capsule is a virulence determinant in the pathogenesis of Pasteurella multocida M1404 (B:2)

Author: Boyce JD; Adler B (REPRINT)
Corporate Source: MONASH UNIV,DEPT MICROBIOL/CLAYTON/VIC 3800/AUSTRALIA/ (REPRINT); MONASH UNIV,DEPT MICROBIOL/CLAYTON/VIC 3800/AUSTRALIA/
Journal: INFECTION AND IMMUNITY , 2000 , V 68 , N6 (JUN) , P 3463-3468
ISSN: 0019-9567 Publication date: 20000600
Publisher: AMER SOC MICROBIOLOGY , 1752 N ST NW, WASHINGTON, DC 20036-2904
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
The capsule is a virulence determinant in the pathogenesis of Pasteurella multocida M1404 (B:2)
Abstract: Capsules from a range of pathogenic bacteria are keg virulence determinants, and the capsule has been implicated in virulence in Pasteurella multocida. We have previously identified and determined the nucleotide sequence of the P... ...contains genes proposed to encode proteins involved in polysaccharide biosynthesis, In order to construct a mutant impaired in capsule export, the final gene of region 1, cexA, was disrupted by insertion of a tetracycline resistance cassette by allelic replacement. The genotype of the tet(M) Omega cexA mutant was confirmed by Southern hybridization and PCR, The acapsular phenotype was confirmed by immunofluorescence, and... ...to capsule production by the presence of a cloned uninterrupted copy of cexA. Wild-type, mutant, and complemented strains were tested for virulence bg intraperitoneal challenge of mice; the presence of the capsule was shown to be a crucial virulence determinant. Following intraperitoneal challenge of mice, the acapsular bacteria were removed efficiently from the blood...
Identifiers-- ...ESCHERICHIA-COLI; ACTINOBACILLUS-PLEUROPNEUMONIAE; ERYSIPELOTHRIX-RHUSIOPATHIAE; POLYSACCHARIDE EXPORT; VIBRIO-VULNIFICUS; SERUM RESISTANCE; EXPRESSION; GENE; PHAGOCYTOSIS; ENCAPSULATION

5/3,K/51 (Item 17 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

08288306 Genuine Article#: 266GM No. References: 49
Isolation and characterization of mini-Tn10 lipopolysaccharide mutants of Actinobacillus pleuropneumoniae serotype 1

Author: Rioux S; Galarneau C; Harel J; Frey J; Nicolet J; Kobisch M; Dubreuil JD; Jacques M (REPRINT)
Corporate Source: UNIV MONTREAL,FAC MED VET, GRP RECH MALAD INFECT PORC, CP 5000/ST HYACINTHE/PQ J2S 7C6/CANADA/ (REPRINT); UNIV MONTREAL,FAC MED VET, GRP RECH MALAD INFECT PORC/ST HYACINTHE/PQ J2S 7C6/CANADA/; UNIV MONTREAL,FAC MED VET, DEPT PATHOL & MICROBIOL/ST HYACINTHE/PQ J2S 7C6/CANADA/; UNIV BERN,INST VET BACTERIOL/CH-3012 BERN//SWITZERLAND/; AGCY FRANCAISE SECUR SANITAIRE ALIMENTS,UNITE RECH MYCOPLASMOL & BACTERIOL/F-22440 POLUFRAGEN//FRANCE/
Journal: CANADIAN JOURNAL OF MICROBIOLOGY , 1999 , V 45 , N12 (DEC) , P 1017-1026
ISSN: 0008-4166 Publication date: 19991200
Publisher: NATL RESEARCH COUNCIL CANADA , RESEARCH JOURNALS, MONTREAL RD, OTTAWA ON K1A 0R6, CANADA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Isolation and characterization of mini-Tn10 lipopolysaccharide mutants of Actinobacillus pleuropneumoniae serotype 1
Abstract: Lipopolysaccharide (LPS) has previously been identified as the major adhesin of Actinobacillus pleuropneumoniae involved in adherence to porcine respiratory tract cells. The purpose of the present study was to isolate and

characterize mutants in LPS biosynthesis by using a mini-Tn10 transposon mutagenesis system. Seven mutants appeared to possess a rough LPS (among which two had similar Southern blot profiles) while one mutant (#5.1) expressed the high-molecular-mass LPS, but as visualized by Tricine SDS-PAGE, showed an additional band in the core-lipid A region. The LPS mutants showed sensitivity to pig serum to various degrees, while the parent strain was serum-resistant. Use of piglet frozen tracheal sections indicated that, surprisingly, the rough LPS mutants adhered similarly or in greater numbers than the parent strain. However, the LPS mutant #5.1 adhered significantly less than the parent strain and was also less virulent in pigs. The gene affected by mini-Tn10 in LPS mutant #5.1 is galU, the structural gene for UTP-alpha-D-glucose-1-phosphate uridylyltransferase, involved in LPS core biosynthesis. Complementation analysis confirmed that the phenotypic characteristics of LPS mutant #5.1 are the result of the inactivation of the galU gene. Our data suggest that although the presence of O-antigen does not seem to be essential, an intact core-lipid A region might be required for adherence of A. pleuropneumoniae to porcine respiratory tract cells. To the best of our knowledge, these mutants represent the first isogenic mutants of A. pleuropneumoniae defective in LPS biosynthetic genes.
Identifiers-- ...BACTERIAL OUTER-MEMBRANE; SEROLOGICAL CHARACTERIZATION; TRANSPOSON MUTAGENESIS; MONOCLONAL-ANTIBODIES; SHIGELLA-FLEXNERI; VIRULENCE FACTORS; CAPSULAR MATERIAL; ESCHERICHIA-COLI; PIG HEMOGLOBIN; GENE

5/3,K/52 (Item 18 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

08285339 Genuine Article#: 266LQ No. References: 45
Molecular cloning and mutagenesis of a DNA locus involved in lipooligosaccharide biosynthesis in Haemophilus somnus

Author: Wu YP; McQuiston JH; Cox A; Pack TD; Inzana TJ (REPRINT)
Corporate Source: VIRGINIA POLYTECH INST & STATE UNIV,VIRGINIA MARYLAND REG COLL VET MED, CTR MOL MED & INFECT DIS/BLACKSBURG//VA/24061 (REPRINT); VIRGINIA POLYTECH INST & STATE UNIV,VIRGINIA MARYLAND REG COLL VET MED, CTR MOL MED & INFECT DIS/BLACKSBURG//VA/24061; NATL RES COUNCIL CANADA,INST BIOL SCI/OTTAWA/ON K1A 0R6/CANADA/
Journal: INFECTION AND IMMUNITY , 2000 , V 68 , N1 (JAN) , P 310-319
ISSN: 0019-9567 Publication date: 20000100
Publisher: AMER SOC MICROBIOLOGY , 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Molecular cloning and mutagenesis of a DNA locus involved in lipooligosaccharide biosynthesis in Haemophilus somnus
Abstract: Haemophilus somnus undergoes antigenic and structural phase variation in its lipooligosaccharide (LOS). A gene (lab-1) containing repetitive 5'-CAAT-3' sequences that may, in part, contribute to phase... ...Inzana et al., Infect. Immun. 65:4675-4681, 1997). We have now identified another putative gene (lob-2A) immediately upstream from lob-1, Lob-2A contained homology to several LOS biosynthesis... ...bp SalI-BsgI fragment within lob-2A was deleted, and a kanamycin resistance (Km(r)) gene was inserted into this site to create pCAAT Delta lob2A. Following electroporation of pCAAT Delta lob2A into H. somnus 738, several allelic exchange mutants were isolated. The LOS electrophoretic profile of one mutant, strain 738-lob2A1::Km, was altered, and the phase variation rate was reduced but phase... ...in the terminal beta Gal(1-3)beta GlcNAc residue present in parent strain 738, Mutant 738-lob2A1::Km was significantly more sensitive to the bactericidal action of normal bovine serum... ...in LOS biosynthesis and phase variation and that LOS structure is important to H. somnus virulence.
Identifiers-- ...INFLUENZAE TYPE-B; HEMOPHILUS-SOMNUS; LIPOPOLYSACCHARIDE BIOSYNTHESIS; PHASE VARIATION; ACTINOBACILLUS-PLEUROPNEUMONIAE; NEISSERIA-GONORRHOEAE; VARIABLE EXPRESSION; FC-RECEPTORS; VIRULENCE; GENE

5/3,K/53 (Item 19 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

07609731 Genuine Article#: 187NG No. References: 29
Molecular cloning and sequencing of the aroA gene from Actinobacillus pleuropneumoniae and its use in a PCR assay for rapid identification

Author: Moral CH; Soriano AC; Salazar MS; Marcos JY; Ramos SS; Carrasco GN (REPRINT)

Corporate Source: UNIV LEON,FAC VET, DEPT SANIDAD ANIM MICROBIOL & INMUNOL/LEON 24071//SPAIN/ (REPRINT); UNIV LEON,FAC VET, DEPT SANIDAD ANIM MICROBIOL & INMUNOL/LEON 24071//SPAIN/
Journal: JOURNAL OF CLINICAL MICROBIOLOGY , 1999 , V 37 , N5 (MAY) , P 1575-1578
ISSN: 0095-1137 Publication date: 19990500
Publisher: AMER SOC MICROBIOLOGY , 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Molecular cloning and sequencing of the aroA gene from Actinobacillus pleuropneumoniae and its use in a PCR assay for rapid identification
Abstract: The gene (aroA) of Actinobacillus pleuropneumoniae, serotype 2, encoding 5-enolpyruvylshikimate-3-phosphate synthase was cloned by complementation of the apoA mutation in Escherichia coli K-12 strain AB2829, and the nucleotide sequence was determined, ii pair... ...specific PCR assay. ii DNA fragment of 1,025 bp was amplified from used A. pleuropneumoniae serotypes I to 12 of biovar 1 or from isolated DNA. No PCR products were... ...PCR assay developed was ver sensitive, with lower detection limits of 12 CFU with A. pleuropneumoniae cells and 0.8 pg with extracted DNA. Specificity and sensitivity make this PCR assay a useful method for the rapid identification and diagnosis of A. pleuropneumoniae infections.
Identifiers-- ...VIRULENCE; SEROTYPE-5; INFECTION; STRAINS; TONSILS; TOXINS; PIGS

5/3,K/54 (Item 20 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

07541396 Genuine Article#: 178QZ No. References: 37
Vaccination and protection of pigs against pleuropneumonia with a vaccine strain of Actinobacillus pleuropneumoniae produced by site-specific mutagenesis of the ApxII operon

Author: Prideaux CT (REPRINT) ; Lenghaus C; Krywult J; Hodgson ALM
Corporate Source: CSIRO,HLTH ANIM LAB, DIV ANIM HLTH, PRIVATE BAG 24/GEELONG/VIC 3120/AUSTRALIA/ (REPRINT)
Journal: INFECTION AND IMMUNITY , 1999 , V 67 , N4 (APR) , P 1962-1966
ISSN: 0019-9567 Publication date: 19990400
Publisher: AMER SOC MICROBIOLOGY , 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Vaccination and protection of pigs against pleuropneumonia with a vaccine strain of Actinobacillus pleuropneumoniae produced by site-specific mutagenesis of the ApxII operon
Abstract: ...antibodies during infection plays a major role in the induction of protective immunity to Actinobacillus pleuropneumoniae reinfection. In the present study, the gene encoding the ApxII-activating protein, apxIIC, was insertionally inactivated on the chromosome of a serovar... ...genes required for its secretion, apxIB and apxID, still occurs in this strain. The resulting mutant strain, HS93C(-) Amp(r), was found to secrete the unactivated toxin. Pigs vaccinated with live... ...were protected against a cross-serovar challenge with a virulent serovar I strain of A. pleuropneumoniae. This is the first reported vaccine strain of A.

pleuropneumoniae which can be delivered live to pigs and offers cross-serovar protection against porcine pleuropneumonia.
Identifiers-- ...ESCHERICHIA-COLI; HEMOPHILUS-PLEUROPNEUMONIAE; PASTEURELLA-HAEMOLYTICA; SHUTTLE VECTOR; HEMOLYSIN; SEROTYPE-1; GENE; EXPRESSION; CYTOLYSINS; VIRULENCE

5/3,K/55 (Item 21 from file: 34) Links
Fulltext available through: Proceedings of the National Academy of Sciences (PNAS) custom link USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

07037258 Genuine Article#: 116NB No. References: 19
Altering the anaerobic transcription factor FNR confers a hemolytic phenotype on Escherichia coli K12

Author: Ralph ET; Guest JR; Green J (REPRINT)
Corporate Source: UNIV SHEFFIELD,DEPT MOL BIOL & BIOTECHNOL, KREBS INST/SHEFFIELD S10 2TN/S YORKSHIRE/ENGLAND/ (REPRINT); UNIV SHEFFIELD,DEPT MOL BIOL & BIOTECHNOL, KREBS INST/SHEFFIELD S10 2TN/S YORKSHIRE/ENGLAND/
Journal: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA , 1998 , V 95 , N18 (SEP 1) , P 10449-10452
ISSN: 0027-8424 Publication date: 19980901
Publisher: NATL ACAD SCIENCES , 2101 CONSTITUTION AVE NW, WASHINGTON, DC 20418
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Abstract: The recent outbreaks of Escherichia coli 0157-associated food poisoning have focused attention on the virulence determinants of E. coli. Here, it is reported that single base substitutions in the fnr gene encoding the oxygen-responsive transcription regulator FNR (fumarate and nitrate reduction regulator) are sufficient to... ...widely used laboratory strain. The mechanism involves enhancing the expression of a normally dormant hemolysin gene (hlyE) located in the E. coli chromosome. The mutations direct single amino acid substitutions in the activating regions (AR1 and AR3) of FNR that...
Identifiers-- ...CAP-DEPENDENT PROMOTERS; GENE ACTIVATOR PROTEIN; CLASS-I; ACTINOBACILLUS-PLEUROPNEUMONIAE; OXYGEN; HLYX; REGULATOR; CLUSTER; CONTACT; REGION

>>>W: KWIC option is not available in file(s): 399
5/3,K/56 (Item 22 from file: 34) Links
Fulltext available through: SpringerLink USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

06640738 Genuine Article#: ZG669 No. References: 60
Hemolytic properties and riboflavin synthesis of Helicobacter pylori: cloning and functional characterization of the ribA gene encoding GTP-cyclohydrolase II that confers hemolytic activity to Escherichia coli

Author: Bereswill S (REPRINT) ; Fassbinder F; Volzing C; Covacci A; Haas R; Kist M
Corporate Source: INST MED MICROBIOL,DEPT MICROBIOL & HYG, HERMANN HERDER STR 11/D-79104 FREIBURG//GERMANY/ (REPRINT); IRIS,BIOCINE/I-53100 SIENA//ITALY/; MAX VON PETTENKOFER INST HYG & MED MICROBIOL,DEPT BACTERIOL/D-80336 MUNICH//GERMANY/
Journal: MEDICAL MICROBIOLOGY AND IMMUNOLOGY , 1998 , V 186 , N4 (MAR) , P 177-187

ISSN: 0300-8584 Publication date: 19980300
Publisher: SPRINGER VERLAG , 175 FIFTH AVE, NEW YORK, NY 10010
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Hemolytic properties and riboflavin synthesis of Helicobacter pylori: cloning and functional characterization of the ribA gene encoding GTP-cyclohydrolase II that confers hemolytic activity to Escherichia coli
Abstract: ...the vacuolating cytotoxin VacA as demonstrated by the hemolytic behavior of an isogenic vacA-negative mutant strain. The hemolytic activity could be detected in cell-free supernatants and was not regulated... ...expression of lytic activity on blood agar. This approach revealed that the H. pylori ribA gene congers

hemolytic properties to Escherichia coli. The ribA gene encodes the enzyme GTP-cyclohydrolase II [EC 3.5.4.25] that catalyzes the initial... ...a high degree of similarity to equivalent enzymes from microorganisms and from plants. The single gene on a plasmid restored riboflavin synthesis in a ribA mutant of E. coli and induced hemolytic activity. Furthermore, ribA overexpression was associated with the production... ...yellow molecule that was not identical with riboflavin. Hemolysis was also seen for the ribA gene from E. coli, indicating that this feature was not specific for the H. pylori gene. The presence of ribA in various H. pylori strains was confirmed by Southern blot hybridization...
Identifiers-- ...TRANSPOSON SHUTTLE MUTAGENESIS; CAMPYLOBACTER-PYLORI; GNOTOBIOTIC PIGLETS; ACTINOBACILLUS-PLEUROPNEUMONIAE; VACUOLATING CYTOTOXIN; GASTRIC EPITHELIUM; MOLECULAR-CLONING; VIRULENCE FACTORS; BIOSYNTHESIS; DNA

5/3,K/57 (Item 23 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options Blackwell Publishing
SciSearch(R) Cited Ref Sci

06442368 Genuine Article#: YT605 No. References: 80
Periplasmic copper-zinc superoxide dismutase protects Haemophilus ducreyi from exogenous superoxide

Author: SanMateo LR; Hobbs MM; Kawula TH (REPRINT)
Corporate Source: UNIV N CAROLINA,SCH MED, DEPT MICROBIOL & IMMUNOL/CHAPEL HILL//NC/27599 (REPRINT); UNIV N CAROLINA,SCH MED, DEPT MICROBIOL & IMMUNOL/CHAPEL HILL//NC/27599
Journal: MOLECULAR MICROBIOLOGY , 1998 , V 27 , N2 (JAN) , P 391-404
ISSN: 0950-382X Publication date: 19980100
Publisher: BLACKWELL SCIENCE LTD , P O BOX 88, OSNEY MEAD, OXFORD, OXON, ENGLAND OX2 ONE
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Abstract: ...in increased heterosexual transmission of HIV. As part of an effort to identify H. ducreyi gene products involved in virulence and pathogenesis, we created random TnphoA insertion mutations in an H. ducreyi 35 000 library cloned in Escherichia coil. Inserts encoding exported or... ...Cu-Zn SOD-deficient H. ducreyi strain by inserting a cat cassette into the sodC gene. The wild-type and Cu-Zn SOD null mutant strains were equally resistant to excess cytoplasmic superoxide induced by paraquat, demonstrating that the Cu...
Identifiers-- ...OXIDATIVE METABOLIC BURST; GENITAL ULCER DISEASES; ESCHERICHIA-COLI; CAULOBACTER-CRESCENTUS; NOCARDIA-ASTEROIDES; BRUCELLA-ABORTUS; ACTINOBACILLUS-PLEUROPNEUMONIAE; <CU,ZN>-SUPEROXIDE DISMUTASE

5/3,K/58 (Item 24 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

05309224 Genuine Article#: VP428 No. References: 41
A RIBOFLAVIN AUXOTROPH OF ACTINOBACILLUS-PLEUROPNEUMONIAE IS ATTENUATED IN SWINE

Author: FULLER TE; THACKER BJ; MULKS MH
Corporate Source: MICHIGAN STATE UNIV,DEPT MICROBIOL/E LANSING//MI/48824; MICHIGAN STATE UNIV,DEPT MICROBIOL/E LANSING//MI/48824; IOWA STATE UNIV,DEPT VET CLIN SCI/AMES//IA/50011
Journal: INFECTION AND IMMUNITY , 1996 , V 64 , N11 (NOV) , P 4659-4664
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
A RIBOFLAVIN AUXOTROPH OF ACTINOBACILLUS-PLEUROPNEUMONIAE IS ATTENUATED IN SWINE
Abstract: Actinobacillus pleuropneumoniae is the etiological agent of a highly contagious and often fatal pleuropneumonia in swine. A riboflavin-requiring mutant of A. pleuropneumoniae serotype 1, designated AP233, was constructed by deleting a

portion of the riboflavin biosynthetic operon (ribGBAH) and replacing it with a gene cassette encoding kanamycin resistance. The genes affected included both the alpha- and beta-subunits of... ...the parent wild-type strain. Experimental infection studies with pigs demonstrated that the riboflavin-requiring mutant was unable to cause disease, on the basis of mortality, lung pathology, and clinical signs... ...for the wild-type parent. This is the first demonstration of the attenuation of A. pleuropneumoniae by introduction of a defined mutation in a metabolic gene and the first demonstration that mutations in the genes required for riboflavin biosynthesis can lead to attenuation in a bacterial pathogen.
Identifiers-- ...DEPENDENT SALMONELLA-TYPHIMURIUM; CROSS-PROTECTION EXPERIMENTS; HEMOPHILUS-PLEUROPNEUMONIAE; LIVE-VACCINE; AROA MUTANT; VIRULENCE; PARAHAEMOLYTICUS; CONSTRUCTION; MUTAGENESIS; EFFICACY
Research Fronts: 94-6609 002 (LIVE ATTENUATED AROA SALMONELLA VACCINE; INVASION OF EPITHELIAL-CELLS; VIRULENCE PHENOTYPE; STARVATION SURVIVAL GENES; DEFINED OMPR MUTANTS)
94-3070 001 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)
94-4806 001 (GENE ORGANIZATION; LONG-CHAIN FATTY-ACID TRANSPORT; TRANSCRIPTION FACTOR)
94-7038 001 (STRUCTURAL GENES; TRANSPOSON TN5; ANAEROBIC DEGRADATION; HYDROGENASE ENZYME)
94-7725 001 (VIBRIO-CHOLERAE O1; REGULATORY GENE; GENETICALLY DEFINED SALMONELLA-ENTERITIDIS AROA STRAIN; YOP SECRETION; INNER MEMBRANE-PROTEIN; TOXR REGULON)
94-7857 001 (RESPIRATORY-TRACT IN PIGS; NAD-INDEPENDENT ACTINOBACILLUS-PLEUROPNEUMONIAE STRAINS; PORCINE PHAGOCYTES)

5/3,K/59 (Item 25 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04516849 Genuine Article#: TJ644 No. References: 46
CHARACTERIZATION OF ACTINOBACILLUS-PLEUROPNEUMONIAE RIBOFLAVIN BIOSYNTHESIS GENES

Author: FULLER TE; MULKS MH
Corporate Source: MICHIGAN STATE UNIV,DEPT MICROBIOL/E LANSING//MI/48824; MICHIGAN STATE UNIV,DEPT MICROBIOL/E LANSING//MI/48824
Journal: JOURNAL OF BACTERIOLOGY , 1995 , V 177 , N24 (DEC) , P 7265-7270
ISSN: 0021-9193
Language: ENGLISH Document Type: NOTE (Abstract Available)
CHARACTERIZATION OF ACTINOBACILLUS-PLEUROPNEUMONIAE RIBOFLAVIN BIOSYNTHESIS GENES
Abstract: ...paper, we report the identification, cloning, and complete nucleotide sequence of four genes from Actinobacillus pleuropneumoniae that are involved in riboflavin biosynthesis. The cloned genes can specify production of large amounts of riboflavin in Escherichia coli, can complement several defined genetic mutations in riboflavin biosynthesis in E. coli, and are homologous to riboflavin biosynthetic genes from E, coli, Haemophilus influenzae, and Bacillus subtilis. The genes have been designated A. pleuropneumoniae ribGBAH because of their similarity in both sequence and arrangement to the B. subtilis ribGBAH...
Identifiers-- ...AMINO-ACID-SEQUENCE; ESCHERICHIA-COLI; HEMOPHILUS-PLEUROPNEUMONIAE; BACILLUS-SUBTILIS; LUX GENES; PARAHAEMOLYTICUS; OPERON; SWINE; ORGANIZATION; VACCINATION
Research Fronts: 93-1566 002 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 002 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)
93-6277 001 (ESCHERICHIA-COLI MESSENGER-RNA PROMOTER SEQUENCES; TRANSCRIPTION INITIATION; EXPRESSION OF THE CELLULOMONAS-FLAVIGENA CELL-ASSOCIATED AMYLASE GENE)

5/3,K/60 (Item 26 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04409693 Genuine Article#: TB400 No. References: 30
DISTINCT ANTIGENIC AND GENETIC PROPERTIES OF THE IMMUNOGLOBULIN A1 PROTEASE PRODUCED BY HAEMOPHILUS-INFLUENZAE BIOGROUP AEGYPTIUS ASSOCIATED WITH BRAZILIAN PURPURIC FEVER IN BRAZIL

Author: LOMHOLT H; KILIAN M
Corporate Source: AARHUS UNIV,DEPT MED MICROBIOL & IMMUNOL,BARTHOLIN BLDG/DK-8000 AARHUS C//DENMARK/; AARHUS UNIV,DEPT MED MICROBIOL & IMMUNOL/DK-8000 AARHUS C//DENMARK/
Journal: INFECTION AND IMMUNITY , 1995 , V 63 , N11 (NOV) , P 4389-4394
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Research Fronts: 93-4847 003 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)

5/3,K/61 (Item 27 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04409687 Genuine Article#: TB400 No. References: 43
CLONING AND CHARACTERIZATION OF HEMOLYTIC GENES FROM HELICOBACTER-PYLORI

Author: DRAZEK ES; DUBOIS A; HOLMES RK; KERSULYTE D; AKOPYANTS NS; BERG DE; WARREN RL
Corporate Source: WALTER REED ARMY MED CTR,WALTER REED ARMY INST RES,DEPT BACTERIAL DIS/WASHINGTON//DC/20307; ARMED FORCES INST PATHOL,DEPT INFECT & PARASIT DIS PATHOL/WASHINGTON//DC/20306; UNIFORMED SERV UNIV HLTH SCI,DEPT MED,DIV DIGEST DIS,GASTROINTESTINAL & LIVER STUDIES LAB/BETHESDA//MD/20814; UNIFORMED SERV UNIV HLTH SCI,DEPT MICROBIOL & IMMUNOL/BETHESDA//MD/20814; WASHINGTON UNIV,SCH MED,DEPT MOLEC MICROBIOL/STLOUIS//MO/63110
Journal: INFECTION AND IMMUNITY , 1995 , V 63 , N11 (NOV) , P 4345-4349
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Identifiers-- ...COLI ALPHA-HEMOLYSIN; ESCHERICHIA-COLI; PSEUDOMONAS-AERUGINOSA; CAMPYLOBACTER-PYLORI; GNOTOBIOTIC PIGLETS; GASTRIC EPITHELIUM; PHOSPHOLIPASE-C; VIRULENCE; PLEUROPNEUMONIAE; PATHOGENICITY
Research Fronts: 93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/62 (Item 28 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04398740 Genuine Article#: TA440 No. References: 35
PATHOGENESIS AND IMMUNOGENICITY OF BOVINE ADENOVIRUS TYPE-3 IN COTTON RATS (SIGMODON HISPIDUS)

Author: MITTAL SK; MIDDLETON DM; TIKOO SK; BABIUK LA
Corporate Source: PURDUE UNIV,SCH VET MED,DEPT VET PATHOBIOL/W LAFAYETTE//IN/47907; UNIV SASKATCHEWAN,VET INFECT DIS ORG/SASKATOON/SK S7N 5E3/CANADA/; UNIV SASKATCHEWAN,DEPT VET MICROBIOL/SASKATOON/SK S7N 5E3/CANADA/; UNIV SASKATCHEWAN,DEPT VET PATHOL/SASKATOON/SK S7N 5E3/CANADA/

Journal: VIROLOGY , 1995 , V 213 , N1 (OCT 20) , P 131-139
ISSN: 0042-6822
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Identifiers-- ...RESPIRATORY-TRACT DISEASE; MEDIATED TRANSFER; EARLY REGION-3; EXPRESSION; PNEUMONIA; INFECTION; CATTLE; GENE; HOMOLOGY; CALVES
Research Fronts: 93-0868 001 (CYSTIC-FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR; CFTR GENE; EFFECTS OF THE DELTA-F508 MUTATION)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)

5/3,K/63 (Item 29 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04398730 Genuine Article#: TA440 No. References: 49
IDENTIFICATION AND TRANSCRIPTIONAL ANALYSIS OF A 3'-COTERMINAL GENE -CLUSTER CONTAINING UL1, UL2, UL3, AND UL3.5 OPEN READING FRAMES OF BOVINE HERPESVIRUS-1

Author: KHATTAR SK; LITTELVANDENHURK SV; BABIUK LA; TIKOO SK
Corporate Source: UNIV SASKATCHEWAN,VET INFECT DIS ORG,VIROL GRP,120 VET RD/SASKATOON/SK S7N 5E3/CANADA/; UNIV SASKATCHEWAN,VET INFECT DIS ORG,VIROL GRP/SASKATOON/SK S7N 5E3/CANADA/; UNIV SASKATCHEWAN,VET INFECT DIS ORG,DEPT VET MICROBIOL/SASKATOON/SK S7N 5E3/CANADA/
Journal: VIROLOGY , 1995 , V 213 , N1 (OCT 20) , P 28-37
ISSN: 0042-6822
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
IDENTIFICATION AND TRANSCRIPTIONAL ANALYSIS OF A 3'-COTERMINAL GENE -CLUSTER CONTAINING UL1, UL2, UL3, AND UL3.5 OPEN READING FRAMES OF BOVINE HERPESVIRUS-1
Abstract: ...shows limited homology to the UL3.5 ORF of PRV (31%). The homolog of this gene is absent in HSV-1. Nucleotide sequence analyses also revealed potential TATA boxes located upstream...
Research Fronts: 93-0591 004 (HERPES-SIMPLEX VIRUS TYPE-1; TRANSPORT CAPSID ASSEMBLY PROTEIN (TP CAP) GENE; EXHIBIT ALTERED VIRAL THYMIDINE KINASE EXPRESSION)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)
93-8100 001 (DNA PHOTOLYASE; MECHANISM OF PYRIMIDINE DIMER REPAIR; RECA PROTEIN; PLANT GENE)

5/3,K/64 (Item 30 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04339327 Genuine Article#: RW652 No. References: 47
BACTERIAL [CU,ZN]-SUPEROXIDE DISMUTASE - PHYLOGENETICALLY DISTINCT FROM THE EUKARYOTIC ENZYME, AND NOT SO RARE AFTER ALL

Author: KROLL JS; LANGFORD PR; WILKS KE; KEIL AD
Corporate Source: UNIV LONDON IMPERIAL COLL SCI TECHNOL & MED,ST MARYS HOSP,DEPT PAEDIAT,MOLEC INFECT DIS GRP/LONDON W2 1PG//ENGLAND/
Journal: MICROBIOLOGY-UK , 1995 , V 141 , SEP (SEP) , P 2271-2279
ISSN: 1350-0872
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: ...and Neisseria meningitidis. Comparison of [Cu,Zn]-SOD peptide sequences found in Haemophilus ducreyi, Actinobacillus pleuropneumoniae, Actinobacillus actinomycetemcomitans, Pasteurella multocida, and N, meningitidis with previously described bacterial proteins and examples of ...
Identifiers-- ...DISMUTASE; AMINO-ACID-SEQUENCE; HAEMOPHILUS-INFLUENZAE;

CAULOBACTER-CRESCENTUS; PHOTOBACTERIUM-LEIOGNATHI; BRUCELLA-ABORTUS; ESCHERICHIA-COLI; COPPER; GENE; BACTERIOCUPREIN
Research Fronts: 93-4847 002 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-2093 001 (SUPEROXIDE-DISMUTASE ACTIVITY; REGULATORY MUTATIONS CAUSING ANAEROBIC DEREPRESSION OF THE SODA GENE; LINOLEATE ENHANCED CHEMILUMINESCENT ASSAY)
93-4645 001 (CAPILLARY ZONE ELECTROPHORESIS; POLYACRYLAMIDE GELS; ESCHERICHIA-COLI ALKALINE...

5/3,K/65 (Item 31 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04333171 Genuine Article#: RW006 No. References: 33
MAPPING OF FUNCTIONAL REGIONS ON THE TRANSFERRIN-BINDING PROTEIN (TFBA) OF ACTINOBACILLUS-PLEUROPNEUMONIAE

Author: STRUTZBERG K; VONOLLESCHIK L; FRANZ B; PYNE C; SCHMIDT MA; GERLACH GF
Corporate Source: HANNOVER SCH VET MED,INST MIKROBIOL & TIERSEUCHEN,BISCHOFSHOLER DAMM 15/D-30173 HANNOVER//GERMANY/; HANNOVER SCH VET MED,INST MIKROBIOL & TIERSEUCHEN/D-30173 HANNOVER//GERMANY/; ZENTRUM MOLEK BIOL ENTZUNDUNG,INST INFEKTIOL/D-48129 MUNSTER//GERMANY/; UNIV SASKATCHEWAN,VET INFECT DIS ORG/SASKATOON/SK S7N 0W0/CANADA/
Journal: INFECTION AND IMMUNITY , 1995 , V 63 , N10 (OCT) , P 3846-3850
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
MAPPING OF FUNCTIONAL REGIONS ON THE TRANSFERRIN-BINDING PROTEIN (TFBA) OF ACTINOBACILLUS-PLEUROPNEUMONIAE
Abstract: Actinobacillus pleuropneumoniae can use porcine transferrin as the sole source of iron. Two proteins with molecular masses... ...been shown to specifically bind porcine transferrin; from the TfbA protein, three isoforms from A. pleuropneumoniae serotypes 1, 5, and 7 have been identified and characterized by nucleotide sequence analysis. Here we defined the transferrin-binding region(s) of the TfbA protein of A. pleuropneumoniae serotype 7 by TnphoA mutagenesis, random mutagenesis, and peptide spot synthesis. The amino-terminal half of the TfbA molecule, which has only... ...identity among the three isoforms, was shown to be responsible for transferrin binding by TnphoA mutagenesis. This result was confirmed by analysis of six random mutants with decreased transferrin binding affinity. The subsequent analysis of overlapping 16-mer peptides comprising the... ...acids in length with transferrin-binding activity. They overlapped, or were very close to, point mutations decreasing transferrin-binding ability. The first and third domains were unique to the TfbA protein of A. pleuropneumoniae serotype 7. In contrast, the sequence of the second domain was present in almost identical forms (12 of 14 residues) in the TfbA proteins of A. pleuropneumoniae serotypes 1 and 5; in addition, a sequence consisting of functionally homologous amino acids was...
Identifiers-- ...NEISSERIA-MENINGITIDIS; HEMOPHILUS-PLEUROPNEUMONIAE; PORCINE TRANSFERRIN; IRON; IDENTIFICATION; RECEPTOR; HETEROGENEITY; IMMUNIZATION; INFLUENZAE; SWINE
Research Fronts: ...IMMUNOGLOBULIN FAB FRAGMENTS; BUILDING ANTIBODIES)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-2037 001 (RADIOLABELED STREPTAVIDIN; AVIDIN-BIOTIN TECHNOLOGY... ...ACTIVE-SITE; CONFORMATIONAL PREFERENCE FUNCTIONS; IDENTIFYING PERIODIC OCCURRENCES)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/66 (Item 32 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04333165 Genuine Article#: RW006 No. References: 36
CHARACTERIZATION OF TRANSFERRIN-BINDING PROTEIN-1 AND PROTEIN-2 IN INVASIVE TYPE-B AND NONTYPABLE STRAINS OF HAEMOPHILUS-INFLUENZAE

Author: GRAYOWEN SD; SCHRYVERS AB
Corporate Source: UNIV CALGARY,FAC MED,DEPT MICROBIOL & INFECT DIS/CALGARY/AB T2N 4N1/CANADA/
Journal: INFECTION AND IMMUNITY , 1995 , V 63 , N10 (OCT) , P 3809-3815
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Research Fronts: 93-1182 001 (IRON UPTAKE MECHANISMS OF PATHOGENIC BACTERIA; RIBOSOMAL RIBONUCLEIC-ACID GENE RESTRICTION PATTERNS; RHIZOSPHERE MICROORGANISMS; SIDEROPHORE ACTIVITY)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-3088 001 (RAT MUSCLE; PROTEIN PHOSPHATASE-1; MAJOR GLUTATHIONE TRANSFERASE)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/67 (Item 33 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04215443 Genuine Article#: RN333 No. References: 29
DETECTION OF BOVINE HERPESVIRUS-1 IN CLINICAL-SAMPLES BY THE POLYMERASE CHAIN-REACTION

Author: VILCEK S; NETTLETON PF; HERRING AJ
Corporate Source: UNIV VET MED,DEPT INFECTOL & TROP VET MED,KOMENSKEHO 73/KOSICE 04181//SLOVAKIA/; MOREDUN RES INST/EDINBURGH EH17 7JH/MIDLOTHIAN/SCOTLAND/
Journal: DEUTSCHE TIERARZTLICHE WOCHENSCHRIFT , 1995 , V 102 , N6 (JUN) , P 249-250
ISSN: 0341-6593
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: A PCR assay with primers selected from the gl gene and flanking a 468 bp DNA fragment was tested on clinical samples. Of 27 samples...
Identifiers-- ...RESTRICTION ENDONUCLEASE ANALYSIS; PUSTULAR VULVOVAGINITIS VIRUS; GB GENE; PCR; DNA; RHINOTRACHEITIS; DIAGNOSIS; PROBES; TYPE-1; BLOOD
Research Fronts: ...AMPLIFICATION; DNA DIAGNOSIS; RAPID DETECTION)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/68 (Item 34 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04173116 Genuine Article#: RJ860 No. References: 21
COLONIZATION OF THE TONSILS AND NASOPHARYNX OF CALVES BY A RIFAMPICIN-RESISTANT PASTEURELLA-HAEMOLYTICA AND ITS INHIBITION BY VACCINATION

Author: FRANK GH; BRIGGS RE; ZEHR ES
Corporate Source: USDA ARS,NATL ANIM DIS CTR,POB 70/AMES//IA/50010

Journal: AMERICAN JOURNAL OF VETERINARY RESEARCH , 1995 , V 56 , N7 (JUL) , P 866-869
ISSN: 0002-9645
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Identifiers-- ...STREPTOCOCCUS-MUTANS; SYNTHETIC PEPTIDES; M-PROTEIN; IMMUNIZATION; INFECTION; ANTIGEN
Research Fronts: 93-1566 002 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/69 (Item 35 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04112119 Genuine Article#: RE842 No. References: 25
CLONING AND CHARACTERIZATION OF A PROTECTIVE OUTER-MEMBRANE LIPOPROTEIN OF ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-5

Author: BUNKA S; CHRISTENSEN C; POTTER AA; WILLSON PJ; GERLACH GF
Corporate Source: UNIV VET MED,INST MED CHEM,LINKE BAHNGASSE 11/A-1030 VIENNA//AUSTRIA/; UNIV SASKATCHEWAN,VET INFECT DIS ORG/SASKATOON/SK S7N 5E3/CANADA/; SCH VET,INST MICROBIOL & INFECT DIS/D-30173 HANNOVER//GERMANY/
Journal: INFECTION AND IMMUNITY , 1995 , V 63 , N7 (JUL) , P 2797-2800
ISSN: 0019-9567
Language: ENGLISH Document Type: NOTE (Abstract Available)
CLONING AND CHARACTERIZATION OF A PROTECTIVE OUTER-MEMBRANE LIPOPROTEIN OF ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-5
Abstract: The gene encoding an outer membrane lipoprotein (omlA) of Actinobacillus pleuropneumoniae serotype 5 was cloned, and the protein was expressed in Escherichia coli. One open reading... ...protein (OmlA) with a predicted molecular mass of 40 kDa. A comparison with the omlA gene and the corresponding protein of A. pleuropneumoniae serotype 1 (G.-F. Gerlach, C. Anderson, S. Klashinsky, A. Rossi-Kampos, A. A. Potter... ...were antigenically distinct. In a Western blot (immunoblot) analysis using a specific antiserum against A: pleuropneumoniae serotype 5 OmlA, a homologous protein was detected in the reference strains of A. pleuropneumoniae serotypes 5A, 5B, and 10, Pigs immunized with this recombinant protein were protected from death in an aerosol challenge experiment,vith an A. pleuropneumoniae serotype 5 isolate.
Identifiers-- ...HEMOPHILUS-PLEUROPNEUMONIAE; SEROLOGICAL CHARACTERIZATION; ESCHERICHIA-COLI; STRAINS; PROPOSAL; EXPRESSION; PROTEINS; SWINE
Research Fronts: 93-4847 002 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4826 001 (PHYLOGENETIC POSITION; 18S RIBOSOMAL-RNA GENE SEQUENCE; ANAEROBIC THERMOPHILIC BACTERIA)

5/3,K/70 (Item 36 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04094764 Genuine Article#: RD990 No. References: 39
IDENTIFICATION OF BARTONELLA (ROCHALIMAEA) SPECIES AMONG FASTIDIOUS GRAM-NEGATIVE BACTERIA ON THE BASIS OF THE PARTIAL SEQUENCE OF THE CITRATE-SYNTHASE GENE

Author: JOBLET C; ROUX V; DRANCOURT M; GOUVERNET J; RAOULT D

Corporate Source: FAC MED MARSEILLE,CNRS,EPJ 0054,UNITE RICKETTSIES,BLVD JEAN MOULIN/F-13385 MARSEILLE 05//FRANCE/; FAC MED MARSEILLE,CNRS,EPJ 0054,UNITE RICKETTSIES/F-13385 MARSEILLE 05//FRANCE/; HOP ENFANTS LA TIMONE,COMMUN BIOL MOLEC LAB,ASSISTANCE PUBL MARSEILLE/F-13005 MARSEILLE//FRANCE/; HOP ENFANTS LA TIMONE,INFORMAT MED SERV/F-13005MARSEILLE//FRANCE/
Journal: JOURNAL OF CLINICAL MICROBIOLOGY , 1995 , V 33 , N7 (JUL) , P 1879-1883
ISSN: 0095-1137
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
...FASTIDIOUS GRAM-NEGATIVE BACTERIA ON THE BASIS OF THE PARTIAL SEQUENCE OF THE CITRATE-SYNTHASE GENE
Abstract: ...identification of Bartonella species among fastidious gram-negative bacteria. The amplification of the citrate-synthase gene with primers previously reported (R. L. Regnery, C. L. Spruill, and B. D. Plikaytis, J... ...15 genotypically or phenotypically related species tested. We determined the sequences of the citrate-synthase gene-amplified products for Bartonella species and C. ochracea in order to predict the optimal restriction...
Research Fronts: ...BACTERIA; TOXIC METALS; INSITU DETECTION)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-6641 001 (P53 GENE; DNA SEQUENCING; POLYMERASE CHAIN-REACTION PRODUCTS; POINT MUTATIONS; MAGNETIC BEADS)

5/3,K/71 (Item 37 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

04042539 Genuine Article#: QK170 No. References: 31
INCIDENCE AND SPREAD OF HAEMOPHILUS-INFLUENZAE ON AN ANTARCTIC BASE DETERMINED USING THE POLYMERASE CHAIN-REACTION

Author: HOBSON RP; WILLIAMS A; RAWAL K; PENNINGTON TH; FORBES KJ
Corporate Source: UNIV ABERDEEN,DEPT MED MICROBIOL/ABERDEEN AB9 2ZD//SCOTLAND/
Journal: EPIDEMIOLOGY AND INFECTION , 1995 , V 114 , N1 (FEB) , P 93-103
ISSN: 0950-2688
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: ...closed human community of an Antarctic research station. Suitable PCR primers to an H. influenzae gene (ompP2) were used to amplify the gene from DNA preparations made from mixed growth on chocolate agar with added vancomycin. PCR product...
Research Fronts: ...CHILDREN ATTENDING DAY-CARE-CENTERS)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/72 (Item 38 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options Blackwell Publishing
SciSearch(R) Cited Ref Sci

04035750 Genuine Article#: RA597 No. References: 42
THE ESG LOCUS OF MYXOCOCCUS-XANTHUS ENCODES THE E1-ALPHA AND E1-BETA SUBUNITS OF A BRANCHED-CHAIN KETO ACID DEHYDROGENASE

Author: TOAL DR; CLIFTON SW; ROE BA; DOWNARD J
Corporate Source: UNIV OKLAHOMA,DEPT BOT & MICROBIOL/NORMAN//OK/73019; UNIV OKLAHOMA,DEPT BOT & MICROBIOL/NORMAN//OK/73019; UNIV OKLAHOMA,DEPT CHEM & BIOCHEM/NORMAN//OK/73019
Journal: MOLECULAR MICROBIOLOGY , 1995 , V 16 , N2 (APR) , P 177-189

ISSN: 0950-382X
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: ...involved in branched-chain amino acid (BCAA) metabolism. The properties of an esg::Tn5 insertion mutant supported this conclusion, These properties include: (i) the growth yield of the mutant was reduced with increasing concentrations of the BCAAs in the medium while the growth yield of wild-type cells increased, (ii) mutant extracts were deficient in BCKAD activity, and (iii) growth of the mutant in media with short branched-chain fatty acids related to the expected products of the BCKAD helped to correct the mutant defects in growth, pigmentation and development. The esg BCKAD appears to be involved in the synthesis of long branched-chain fatty acids since the mutant contained reduced levels of this class of compounds. Our results are consistent with a model...
Identifiers-- ...FRUITING BODY MORPHOGENESIS; SIGNALING PROTEIN; CELL-INTERACTIONS; FATTY-ACIDS; C-FACTOR; IDENTIFICATION; SIMILARITY; SEQUENCE; MUTANTS; DENSITY
Research Fronts: 93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-2555 001 (STREPTOMYCES-COELICOLOR A3(2); CLONED... ...93-7913 001 (PYRUVATE-DEHYDROGENASE COMPLEX; CATALYTIC DOMAIN OF THE DIHYDROLIPOYL TRANSACETYLASE COMPONENT; ALPHA SUBUNIT GENE)

5/3,K/73 (Item 39 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03999491 Genuine Article#: QX931 No. References: 34
CHARACTERIZATION OF BOVINE HERPESVIRUS-1 UL49 HOMOLOG GENE AND PRODUCT - BOVINE HERPESVIRUS-1 UL49 HOMOLOG IS DISPENSABLE FOR VIRUS GROWTH

Author: LIANG XP; CHOW B; LI YH; RAGGO C; YOO DW; ATTAHPOKU S; BABIUK LA
Corporate Source: UNIV SASKATCHEWAN,VET INFECT DIS ORG/SASKATOON/SK S7N 5E3/CANADA/; UNIV SASKATCHEWAN,DEPT VET MICROBIOL/SASKATOON/SK S7N 5E3/CANADA/
Journal: JOURNAL OF VIROLOGY , 1995 , V 69 , N6 (JUN) , P 3863-3867
ISSN: 0022-538X
Language: ENGLISH Document Type: NOTE (Abstract Available)
CHARACTERIZATION OF BOVINE HERPESVIRUS-1 UL49 HOMOLOG GENE AND PRODUCT - BOVINE HERPESVIRUS-1 UL49 HOMOLOG IS DISPENSABLE FOR VIRUS GROWTH
Abstract: The sequence of the bovine herpesvirus 1 (BHV-1) gene that is homologous to the herpes simplex virus UL49 gene was determined. The BHV-1 UL49 homolog open reading frame consists of 774 bp and... ...1-kb RNA which is coterminal with the transcripts of an upstream UL49.5 homolog gene. Rabbit antisera produced against synthetic peptides of the predicted UL49 homolog gene product recognized a polypeptide of 33 to 35 kDa in both virus-infected cells and... ...virions. Further analysis by unionic-detergent partition of isolated virions suggested that the UL49 homolog gene product is a virion tegument protein. Indirect immunofluorescence assay revealed that the UL49 homolog gene product was predominantly localized in the nuclei of BHV-1-infected cells. A mutant virus with the UL49 homolog gene deleted was produced, and it was able to replicate in noncomplementing cells. Nevertheless, the yield of mutant virus was significantly reduced. The results from this study suggest that the BHV-1 UL49 homolog gene encodes a nuclear protein which constitutes a tegument component in mature virions and that it...
Identifiers-- ...TYPE-1 TEGUMENT PROTEIN; RHINOTRACHEITIS VIRUS; GLYCOPROTEIN-GIII; DNA-SEQUENCE; SIMPLEX; EXPRESSION; IDENTIFICATION; POLYPEPTIDE; MUTANTS; CELLS
Research Fronts: 93-0591 002 (HERPES-SIMPLEX VIRUS TYPE-1; TRANSPORT CAPSID ASSEMBLY PROTEIN (TP CAP) GENE; EXHIBIT ALTERED VIRAL THYMIDINE KINASE EXPRESSION)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)

5/3,K/74 (Item 40 from file: 34) Links

Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03952016 Genuine Article#: QU854 No. References: 21
CHARACTERIZATION OF PASTEURELLA-MULTOCIDA ISOLATED FROM FOWL CHOLERA OUTBREAKS ON TURKEY FARMS

Author: BLACKALL PJ; PAHOFF JL; MARKS D; FEGAN N; MORROW CJ
Corporate Source: QUEENSLAND DEPT PRIMARY IND,ANIM RES INST/YEERONGPILLY/QLD 4105/AUSTRALIA/; AA TEGEL/CAMDEN/NSW 2570/AUSTRALIA/; VICTORIAN INST ANIM SCI/ATTWOOD/VIC 3049/AUSTRALIA/
Journal: AUSTRALIAN VETERINARY JOURNAL , 1995 , V 72 , N4 (APR) , P 135-138
ISSN: 0005-0423
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Research Fronts: 93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/75 (Item 41 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03869450 Genuine Article#: QN321 No. References: 51
DELINEATION OF THE ESSENTIAL FUNCTION OF BOVINE HERPESVIRUS-1 GD - AN INDICATION FOR THE MODULATORY ROLE OF GD IN VIRUS ENTRY

Author: LIANG XP; PYNE C; LI YH; BABIUK LA; KOWALSKI J
Corporate Source: UNIV SASKATCHEWAN,VET INFECT DIS ORG/SASKATOON/SK S7N 5E3/CANADA/; UNIV SASKATCHEWAN,DEPT VET MICROBIOL/SASKATOON/SK S7N 5E3/CANADA/
Journal: VIROLOGY , 1995 , V 207 , N2 (MAR 10) , P 429-441
ISSN: 0042-6822
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: ...found that this cell line was able to support the growth of a go genedeletion mutant; the resultant go mutant progeny contained the GPI-anchored go on its virions and was able to enter into...
Research Fronts: 93-0591 001 (HERPES-SIMPLEX VIRUS TYPE-1; TRANSPORT CAPSID ASSEMBLY PROTEIN (TP CAP) GENE; EXHIBIT ALTERED VIRAL THYMIDINE KINASE EXPRESSION)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4480 001 (GLYCOSYL-PHOSPHATIDYLINOSITOL MEMBRANE ANCHOR; PAROXYSMAL...

5/3,K/76 (Item 42 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03860651 Genuine Article#: QM056 No. References: 28
MOLECULAR-CLONING OF AN ACTINOBACILLUS-PLEUROPNEUMONIAE OUTER-MEMBRANE LIPOPROTEIN (OML-A) FROM SEROTYPE-5A

Author: ITO H; UCHIDA I; SEKIZAKI T; OOISHI E; KAWAI T; OKABE T; TANENO A; TERAKADO N
Corporate Source: NATL INST ANIM HLTH,3-1-1 KANNODAI/TSUKUBA/IBARAKI 305/JAPAN/; KYOTO BIKEN LABS INC/UJI/KYOTO 611/JAPAN/; CHEMOSERO THERAPEUT RES INST/SHIMIZU/KUMAMOTO 860/JAPAN/
Journal: MICROBIAL PATHOGENESIS , 1995 , V 18 , N1 (JAN) , P 29-36
ISSN: 0882-4010
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
MOLECULAR-CLONING OF AN ACTINOBACILLUS-PLEUROPNEUMONIAE OUTER-MEMBRANE LIPOPROTEIN

(OML-A) FROM SEROTYPE-5A
Abstract: The gene encoding an outer membrane lipoprotein (OmlA) was cloned from Actinobacillus pleuropneumoniae strain NG-8 (serotype 5a). The deduced amino acid sequence of OmlA from strain NG.....pigs. Southern blot analysis showed the presence of a sequence highly homologous to the omlA gene of strain NG-8 in strains of serotype 5a, 5b and 10. A specific serum... ...the strains of these serotypes. These data shows the presence of antigenic variability among A. pleuropneumoniae OmlA proteins.
Research Fronts: 93-1566 003 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/77 (Item 43 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03829829 Genuine Article#: QJ524 No. References: 36
ANTIGENIC AND VIRULENCE PROPERTIES OF PASTEURELLA-HAEMOLYTICA LEUKOTOXIN MUTANTS

Author: PETRAS SF; CHIDAMBARAM M; ILLYES EF; FROSHAUER S; WEINSTOCK GM; REESE CP
Corporate Source: PFIZER INC,CENT RES,DIV CENT RES,EASTERN POINT RD/GROTON//CT/06340; PFIZER INC,CENT RES,DIV CENT RES/GROTON//CT/06340; UNIV TEXAS,SCH MED,DEPT BIOCHEM & MOLEC BIOL/HOUSTON//TX/77225
Journal: INFECTION AND IMMUNITY , 1995 , V 63 , N3 (MAR) , P 1033-1039
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
ANTIGENIC AND VIRULENCE PROPERTIES OF PASTEURELLA-HAEMOLYTICA LEUKOTOXIN MUTANTS
Abstract: Antigenic properties of two mutants of Pasteurella haemolytica, strains 54B0071 and 59B0072, that do not produce detectable leukotoxin were investigated... ...analysis with a number of polyclonal sera from animals recovering from pasteurellosis revealed that both mutants secreted a variety of antigens that were also present in cultures of several wild-type strains. These antigens ranged from about 100 to 15 kDa. Mutant strain 59B0071 was found to be totally deficient in leukotoxin, as judged not only by... ...cytotoxicity assays with bovine lymphoma (BL-3) cells or bovine polymorphonuclear cells as targets. The mutant strain 59B0071 had normal levels of a secreted sialylglycoprotease, however. When strains were tested for virulence in goat and cattle challenge experiments, a reduction in mortality and lung lesions was observed with the mutant 59B0071 in comparison with results obtained with wild-type strains. These results are consistent with an important role for leukotoxin in P. haemolytica virulence and suggest that Leukotoxin-negative mutants may be useful tools in the investigation of other virulence properties involved in P. haemolytica infections.
Identifiers-- ...SEROTYPE-SPECIFIC ANTIGEN; NUCLEOTIDE-SEQUENCE; RESPIRATORY-DISEASE; GLYCOPROTEASE GENE; BOVINE NEUTROPHILS; CYTO-TOXIN; A1; PASTEURELLA-HAEMOLYTICA-A1; NEURAMINIDASE; CLONING
Research Fronts: ...PHOSPHATASE-1; MAJOR GLUTATHIONE TRANSFERASE)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)

5/3,K/78 (Item 44 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03812129 Genuine Article#: QH084 No. References: 20
THE CAMP EFFECT OF ACTINOBACILLUS-PLEUROPNEUMONIAE IS CAUSED BY APX TOXINS

Author: JANSEN R; BRIAIRE J; KAMP EM; GIELKENS ALJ; SMITS MA

Corporate Source: DLO,INST ANIM SCI & HLTH,DEPT MOLEC BIOL,POSTBOX 65/8200 AB LELYSTAD//NETHERLANDS/; DLO,INST ANIM SCI & HLTH,DEPT MOLEC BIOL/8200 AB LELYSTAD//NETHERLANDS/; DLO,DEPT ANIM SCI & HLTH,DEPT BACTERIOL/8200 ABLELYSTAD//NETHERLANDS/
Journal: FEMS MICROBIOLOGY LETTERS , 1995 , V 126 , N2 (FEB 15) , P 139-143
ISSN: 0378-1097
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
THE CAMP EFFECT OF ACTINOBACILLUS-PLEUROPNEUMONIAE IS CAUSED BY APX TOXINS
Abstract: Actinobacillus pleuropneumoniae shows synergistic haemolysis when cocultured with Staphylococcus aureus on blood agar plates. This CAMP effect has been attributed to a discrete CAMP factor, but also to the A. pleuropneumoniae-RTX-toxins I, II, and III. We examined the CAMP effect of recombinant Escherichia coli strains that secreted each of these toxins, and of A. pleuropneumoniae mutant strains that were devoid of one or more these toxins. We found that the E. coli strains were CAMP positive, whereas the A. pleuropneumoniae strain devoid of functional toxin genes was CAMP negative. This demonstrated that the CAMP effect of A. pleuropneumoniae is caused by the toxins and that no CAMP factor per se exists.
Identifiers-- ...ESCHERICHIA-COLI; PROTEINS; VIRULENCE; HEMOLYSIN; GENE; REGULATOR; CLONING; HLYX
Research Fronts: 93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/79 (Item 45 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03757928 Genuine Article#: QD149 No. References: 58
FINE MAPPING OF BOVINE HERPESVIRUS-1 (BHV-1) GLYCOPROTEIN-D (GD) NEUTRALIZING EPITOPES BY TYPE-SPECIFIC MONOCLONAL-ANTIBODIES AND SEQUENCE COMPARISON WITH BHV-5 GD

Author: ABDELMAGID OY; MINOCHA HC; COLLINS JK; CHOWDHURY SI
Corporate Source: KANSAS STATE UNIV AGR & APPL SCI,COLL VET MED,DEPT PATHOL & MICROBIOL/MANHATTAN//KS/66506; KANSAS STATE UNIV AGR & APPL SCI,COLL VET MED,DEPT PATHOL & MICROBIOL/MANHATTAN//KS/66506; COLORADO STATE UNIV,DEPT MICROBIOL/FT COLLINS//CO/80523
Journal: VIROLOGY , 1995 , V 206 , N1 (JAN 10) , P 242-253
ISSN: 0042-6822
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Identifiers-- ...SIMPLEX VIRUS TYPE-1; ENCEPHALITIS HERPESVIRUS; DNA-SEQUENCE; D GENE; PROTEINS; CATTLE; POLYPEPTIDES; EXPRESSION; SITES; RHINOTRACHEITIS
Research Fronts: 93-4847 002 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-3088 001 (RAT MUSCLE; PROTEIN PHOSPHATASE-1...

5/3,K/80 (Item 46 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03699354 Genuine Article#: PY400 No. References: 34
KNOCKOUT MUTANTS OF ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-1 THAT ARE DEVOID OF RTX TOXINS DO NOT ACTIVATE OR KILL PORCINE NEUTROPHILS

Author: JANSEN R; BRIAIRE J; SMITH HE; DOM P; HAESEBROUCK F; KAMP EM; GIELKENS ALJ; SMITS MA
Corporate Source: ID DLO,DEPT MOLEC BIOL,POB 65/8200 AB LELYSTAD//NETHERLANDS/; ID DLO,DEPT MOLEC BIOL/8200 AB LELYSTAD//NETHERLANDS/; STATE UNIV GHENT,FAC VET MED,VET BACTERIOL & MYCOL LAB/B-9000 GHENT//BELGIUM/
Journal: INFECTION AND IMMUNITY , 1995 , V 63 , N1 (JAN) , P 27-37
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
KNOCKOUT MUTANTS OF ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-1 THAT ARE DEVOID OF RTX TOXINS DO NOT ACTIVATE OR KILL PORCINE NEUTROPHILS
Abstract: The Actinobacillus pleuropneumoniae RTX-toxins ApxI, ApxII, and ApxIII are important virulence factors of this swine pathogen, It is hypothesized that the Apr toxins are deleterious to... ...infect the host. To confirm this, we studied the effect on porcine polymorphonuclear neutrophils of mutant strains of A. pleuropneumoniae that were devoid of Apx toxins. For this purpose, we developed a system for targeted mutagenesis of A. pleuropneumoniae based on the conditionally replicating plasmid pVE6063 and insertional mutagenesis by homologous recombination. Employing this system on the reference strain of serotype 1, a strain that secretes ApxI and ApxIl, we generated mutant strains that were devoid of Apxl and/or ApxII, We compared the ability of the parent strain and the mutant strains to provoke an oxidative burst in porcine neutrophils and to kill these cells. The parent strain and mutants that secreted either ApxI or ApxII provoked an oxidative burst and killed the neutrophils, whereas mutant strains that were devoid of ApxI and ApxII did not. These experiments indicate the importance...
Identifiers-- ...GRAM-NEGATIVE BACTERIA; CYTOLYSINS; CLONING; INJURY; GENE; VIRULENCE; PLASMID
Research Fronts: 93-1566 002 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/81 (Item 47 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

03684998 Genuine Article#: PX472 No. References: 48
BORDETELLA HOLMESII SP-NOV, A NEW GRAM-NEGATIVE SPECIES ASSOCIATED WITH SEPTICEMIA

Author: WEYANT RS; HOLLIS DG; WEAVER RE; AMIN MFM; STEIGERWALT AG; OCONNOR SP; WHITNEY AM; DANESHVAR MI; MOSS CW; BRENNER DJ
Corporate Source: CTR DIS CONTROL & PREVENT,NATL CTR INFECT DIS,DIV BACTERIAL & MYCOT DIS/ATLANTA//GA/30333; UNIV GIZA/EL MOHNDSEEN//EGYPT/
Journal: JOURNAL OF CLINICAL MICROBIOLOGY , 1995 , V 33 , N1 (JAN) , P 1-7
ISSN: 0095-1137
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Research Fronts: ...PATHOGENS; ACIDOPHILIC BACTERIA; TOXIC METALS; INSITU DETECTION)
93-4826 002 (PHYLOGENETIC POSITION; 18S RIBOSOMAL-RNA GENE SEQUENCE; ANAEROBIC THERMOPHILIC BACTERIA)
93-1566 001 (BOVINE HERPESVIRUS-1 DNA; DETECTION OF ACTINOBACILLUS-PLEUROPNEUMONIAE; SECRETED VIRULENCE FACTORS; PORCINE PNEUMONIC LUNGS; DOG-BITE WOUNDS)
93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING METHYLMALONYL-COENZYME-A MUTASE)

5/3,K/82 (Item 48 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02802913 Genuine Article#: ME617 No. References: 21
INCREASED SENSITIVITY OF GONOCOCCAL PILA MUTANTS TO BACTERICIDAL ACTIVITY OF NORMAL HUMAN SERUM

Author: TAHA MK
Corporate Source: INST PASTEUR,UNITE NEISSERIA,28 RUE DR ROUX/F-75724 PARIS 15//FRANCE/
Journal: INFECTION AND IMMUNITY , 1993 , V 61 , N11 (NOV) , P 4662-4668
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
INCREASED SENSITIVITY OF GONOCOCCAL PILA MUTANTS TO BACTERICIDAL ACTIVITY OF NORMAL HUMAN SERUM
Abstract: PilA is a pleiotropic transcriptional regulator in Neisseria gonorrhoeae, encoded by an essential gene, pilA. It regulates pilin gene expression and stress response and it is implicated in gonococcal adaptation to external signals. All these phenomena may participate in gonococcal virulence. In this report, I tested the role of PilA in another aspect of gonococcal virulence, resistance to the bactericidal effect of normal human serum. Gonococcal mutants with impaired PilA function were more susceptible to the bactericidal effect of normal human serum... ...and the lipooligosaccharide, targets for complement-mediated killing by the serum, were unchanged in the mutants. I discuss the role of PilA in modulating gonococcal sensitivity and resistance to normal human...
Identifiers-- ...CYTIDINE 5'-MONOPHOSPHO-N-ACETYLNEURAMINIC ACID; NEISSERIA-GONORRHOEAE; CONTINUOUS CULTURE; RESISTANCE; SUSCEPTIBILITY; EXPRESSION; VIRULENCE; OPACITY
Research Fronts: 91-0730 001 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-5968 001 (TRANSFORMATION OF NEISSERIA-GONORRHOEAE; MENINGOCOCCAL DISEASE; OPA (CLASS-5) GENE FAMILY)

5/3,K/83 (Item 49 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02696406 Genuine Article#: LX116 No. References: 70
THE OPSX LOCUS OF XANTHOMONAS-CAMPESTRIS AFFECTS HOST-RANGE AND BIOSYNTHESIS OF LIPOPOLYSACCHARIDE AND EXTRACELLULAR POLYSACCHARIDE

Author: KINGSLEY MT; GABRIEL DW; MARLOW GC; ROBERTS PD
Corporate Source: UNIV FLORIDA,DEPT PLANT PATHOL/GAINESVILLE//FL/32611; UNIV FLORIDA,DEPT PLANT PATHOL/GAINESVILLE//FL/32611
Journal: JOURNAL OF BACTERIOLOGY , 1993 , V 175 , N18 (SEP) , P 5839-5850
ISSN: 0021-9193
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: ...and has a wide host range that includes rutaceous and leguminous plants. A spontaneous prototrophic mutant of strain 3048 (strain M28) that had lost virulence on citrus but retained virulence on bean plants was recovered. Growth studies in planta showed that M28 cells died rapidly... ...leaves but grew normally in bean leaves. In addition to the loss of citrus-specific virulence, M28 displayed the following mutant phenotypes in culture: decreased growth rate, reduction of the amount of exopolysaccharide (to ca. 25... ...assembly. A 38-kb DNA fragment from a 3048 total DNA library that complemented the mutant phenotypes of M28 was identified. The 38-kb fragment did not hybridize to two similarly... ...different hrp (hypersensitive response and pathogenicity) genes cloned from 3048. Subcloning, DNA sequence analyses, and gene disruption experiments were used to identify a single gene, opsX (for outer-membrane polysaccharide), responsible for the mutant phenotypes of M28. At least one other gene downstream from opsX also affected the same phenotypes and may be part of a gene cluster. We report here the DNA sequence and transcriptional start site of opsX. A search... ...and RfaQ of Escherichia coli (both are involved in LPS core assembly). The host-specific virulence function of

opsX appears to involve biosynthesis of the extracellular polysaccharide and a complete LPS...
Identifiers-- ...FRAGMENT-LENGTH-POLYMORPHISM; GRAM-NEGATIVE BACTERIA; ESCHERICHIA-COLI K-12; PV CAMPESTRIS; PHYTOPATHOGENIC BACTERIA; INSERTION MUTAGENESIS ; PATHOVAR CAMPESTRIS; RHIZOBIUM-MELILOTI; GENE-CLUSTER; XANTHAN GUM
Research Fronts: 91-4817 003 (LIPASE GENE; CDNA FOR STIMULATORY GDP/GTP EXCHANGE PROTEIN; EXPRESSION OF MESSENGER-RNA)
91-0730 001 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-0734 001 (REQUIRING SEQUENCE...

5/3,K/84 (Item 50 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02673567 Genuine Article#: LV387 No. References: 49
TRANSPOSON MUTAGENESIS IN ACTINOBACILLUS-PLEUROPNEUMONIAE WITH A TN10 DERIVATIVE

Author: TASCON RI; RODRIGUEZFERRI EF; GUTIERREZMARTIN CB; RODRIGUEZBARBOSA I; BERCHE P; VAZQUEZBOLAND JA
Corporate Source: UNIV LEON,FAC VET,UNIDAD MICROBIOL & IMMUNOL/E-24071 LEON//SPAIN/; UNIV LEON,FAC VET,UNIDAD MICROBIOL & IMMUNOL/E-24071 LEON//SPAIN/; FAC MED NECKER ENFANTS MALAD,MICROBIOL LAB/F-75015 PARIS//FRANCE/; UNIV COMPLUTENSE,FAC VET,UNIDAD MICROBIOL & IMMUNOL/E-28040 MADRID//SPAIN/
Journal: JOURNAL OF BACTERIOLOGY , 1993 , V 175 , N17 (SEP) , P 5717-5722
ISSN: 0021-9193
Language: ENGLISH Document Type: NOTE (Abstract Available)
TRANSPOSON MUTAGENESIS IN ACTINOBACILLUS-PLEUROPNEUMONIAE WITH A TN10 DERIVATIVE
Abstract: ...1.2% of the mutants resulted from the cointegration of pLOF/Km into the A. pleuropneumoniae chromosome. The applicability of this transposon mutagenesis system was verified on other A. pleuropneumoniae strains of different serotypes. The usefulness of this transposon mutagenesis system in genetic studies of A. pleuropneumoniae is discussed.
Identifiers-- ...OUTER-MEMBRANE PROTEINS; HEMOPHILUS-PLEUROPNEUMONIAE; CHROMOSOMAL INSERTION; HEMOLYSIN-I; VIRULENCE; PIGS; DNA; LIPOPOLYSACCHARIDES; IMMUNOGENICITY; CONSTRUCTION
Research Fronts: 91-7783 002 (ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7. LIPOPOLYSACCHARIDE; 104-KILODALTON HEMOLYSIN; GROSS LUNG LESIONS)
91-4817 001 (LIPASE GENE; CDNA FOR STIMULATORY GDP/GTP EXCHANGE PROTEIN; EXPRESSION OF MESSENGER-RNA)
91-5382 001 (DNA ...

5/3,K/85 (Item 51 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02668856 Genuine Article#: LV099 No. References: 33
NEISSERIA-GONORRHOEAE STRAIN-MS11 HARBORING A MUTATION IN GENE AROA IS ATTENUATED AND IMMUNOGENIC

Author: CHAMBERLAIN LM; STRUGNELL R; DOUGAN G; HORMAECHE CE; DEHORMAECHE RD
Corporate Source: DEPT PATHOL,TENNIS COURT RD/CAMBRIDGE CB2 1QP//ENGLAND/; UNIV MELBOURNE,DEPT MICROBIOL/PARKVILLE/VIC 3052/AUSTRALIA/; UNIV LONDON IMPERIAL COLL SCI TECHNOL & MED,DEPT BIOCHEM/LONDON SW7 2AY//ENGLAND/
Journal: MICROBIAL PATHOGENESIS , 1993 , V 15 , N1 (JUL) , P 51-63
ISSN: 0882-4010
Language: ENGLISH Document Type: ARTICLE
NEISSERIA-GONORRHOEAE STRAIN-MS11 HARBORING A MUTATION IN GENE AROA IS ATTENUATED AND IMMUNOGENIC
Identifiers-- ...OUTER-MEMBRANE PROTEIN; HUMAN-SERUM; POLYACRYLAMIDE GELS;

BLOOD-CELLS; RESISTANCE; GONOCOCCI; VACCINE; IMMUNIZATION; SALMONELLA; VIRULENCE
Research Fronts: 91-0730 002 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-3106 001 (IDENTIFICATION OF ... ...ASSOCIATED PROTEIN; ACTIN ISOFORM EXPRESSION IN CULTURED ARTERIAL SMOOTH-MUSCLE CELLS)
91-4817 001 (LIPASE GENE; CDNA FOR STIMULATORY GDP/GTP EXCHANGE PROTEIN; EXPRESSION OF MESSENGER-RNA)

5/3,K/86 (Item 52 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02494032 Genuine Article#: LF171 No. References: 30
ERWINIA-CHRYSANTHEMI EC16 PRODUCES A 2ND SET OF PLANT-INDUCIBLE PECTATE LYASE ISOZYMES

Author: KELEMU S; COLLMER A
Corporate Source: CORNELL UNIV,DEPT PLANT PATHOL/ITHACA//NY/14853; CORNELL UNIV,DEPT PLANT PATHOL/ITHACA//NY/14853
Journal: APPLIED AND ENVIRONMENTAL MICROBIOLOGY , 1993 , V 59 , N6 (JUN) , P 1756-1761
ISSN: 0099-2240
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: ...secretes multiple pectic enzymes that degrade plant cell walls and middle lamellae. An E. chrysanthemi mutant with directed deletions or insertions in genes pehX, pelX, pelA, pelB, pelC, and pelE, which... ...pelA pelE) DELTA(p B pelC)::28bp DELTA(pelX)DELTA4bp derivative of strain EC16. This mutant, E. chrysanthemi CUCPB5012, no longer caused pitting in a standard pectate semisolid agar medium used to detect pectolytic activity in bacteria. Nevertheless, the mutant still macerated leaves of chrysanthemum (Chrysanthemum morifolium), although with reduced virulence. The mutant was found to produce significant pectate lyase activity in rotting chrysanthemum tissue and in minimal...
Identifiers-- ...MARKER-EXCHANGE MUTAGENESIS; SOFT-ROT ERWINIAS; ESCHERICHIA-COLI; PECTIC ENZYMES; MOLECULAR-CLONING; GENES; PATHOGENESIS; DEGRADATION; MUTATIONS
Research Fronts: 91-0730 001 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-4257 001 (PLANT CELL-WALL PECTIN METHYLESTERASE; ERWINIA-CAROTOVORA SUBSP CAROTOVORA EXTRACELLULAR PROTEASE; POLYGALACTURONASE GENE; INFECTED HOST LEAF TISSUES)
91-7646 001 (ESCHERICHIA-COLI K-12; PUTRESCINE REPRESSES EXPRESSION OF THE SPEA GENE ENCODING BIOSYNTHETIC ARGININE DECARBOXYLASE)

5/3,K/87 (Item 53 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options Blackwell Publishing
SciSearch(R) Cited Ref Sci

02493416 Genuine Article#: LF036 No. References: 59
THE ROLE OF GALE IN THE BIOSYNTHESIS AND FUNCTION OF GONOCOCCAL LIPOPOLYSACCHARIDE

Author: ROBERTSON BD; FROSCH M; VANPUTTEN JPM
Corporate Source: MAX PLANCK INST BIOL,INFEKT BIOL ABT/W-7400 TUBINGEN//GERMANY/; HANNOVER MED SCH,INST MED MIKROBIOL/W-3000 HANNOVER 61//GERMANY/
Journal: MOLECULAR MICROBIOLOGY , 1993 , V 8 , N5 (MAY) , P 891-901
ISSN: 0950-382X
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: ...is an essential component of the outer membrane of Gram-negative bacteria and an important virulence factor of many pathogens, such as Neisseria

gonorrhoeae. We have cloned the gonococcal galE gene which was found to be located in the gonococcal homologue of the meningococcal capsule gene complex region D. Sequence alignment indicated extensive homology with the Escherichia coli and Salmonella GalE proteins. Mutants with insertions in the galE gene were used as a tool to characterize the structure and function of gonococcal lipopolysaccharide. They displayed deep rough phenotypes, and chemical analysis confirmed the loss of galactose from the mutant lipopolysaccharide. Functional analysis indicated that the terminal oligosaccharides contain galactose and that these are lost in galE mutants. The importance of these oligosaccharides in gonococcal biology is clear from the fact that they... ...protect the gonococcus from this killing. Furthermore, infection experiments in vitro indicate that the galE mutants exhibit unaltered intergonococcal adhesion as well as adhesion to, and invasion of, epithelial cells.
Research Fronts: 91-0730 003 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-4817 002 (LIPASE GENE; CDNA FOR STIMULATORY GDP/GTP EXCHANGE PROTEIN; EXPRESSION OF MESSENGER-RNA)
91-5382 001 (DNA...

5/3,K/88 (Item 54 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02484321 Genuine Article#: LE498 No. References: 42
CHARACTERIZATION OF A NOVEL CHROMOSOMAL VIRULENCE LOCUS INVOLVED IN EXPRESSION OF A MAJOR SURFACE FLAGELLAR SHEATH ANTIGEN OF THE FISH PATHOGEN VIBRIO-ANGUILLARUM

Author: NORQVIST A; WOLFWATZ H
Corporate Source: NATL DEF RES ESTAB,DEPT NBC DEF/S-90182 UMEA//SWEDEN/; UMEA UNIV,DEPT CELL & MOLEC BIOL/S-90187 UMEA//SWEDEN/
Journal: INFECTION AND IMMUNITY , 1993 , V 61 , N6 (JUN) , P 2434-2444
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
CHARACTERIZATION OF A NOVEL CHROMOSOMAL VIRULENCE LOCUS INVOLVED IN EXPRESSION OF A MAJOR SURFACE FLAGELLAR SHEATH ANTIGEN OF THE FISH PATHOGEN ...
Abstract: The fish pathogenic bacterium Vibrio anguillarum 775.17B was mutated by the use of transposon Tn5-132. Two hundred independent exconjugants were isolated and screened for a reduction of virulence in experimental infections of rainbow trout (Onchorhynchus mykiss). Two of these exconjugants, VAN20 and VAN70, showed a significant reduction in virulence after both intraperitoneal and immersion infections. The avirulent mutants showed no loss of any previously suggested virulence determinants of V. anguillarum. One of the mutants (VAN70) was further characterized. DNA sequence analysis revealed two open reading frames, the gene into which Tn5-132 had been inserted (virA) and a closely linked upstream gene (virB). A virB mutant of 775.17B, NQ706, was isolated and also shown to be avirulent. The deduced amino... ...virB correspond to proteins with molecular weights of 36,000 and 42,000, respectively. Insertional mutagenesis of the corresponding virA and virB genes of a clinical isolate of V. anguillarum, serotype... ...and virB are involved in the biosynthesis of a major surface antigen important for the virulence of V. anguillarum. Immunogold electron microscopy showed that a constituent of the flagellar sheath was...
Identifiers-- ...IRON UPTAKE SYSTEM; GRAM-NEGATIVE BACTERIA; TRANSPOSON MUTAGENESIS; RNA-POLYMERASE; CHOLERAE; PLASMID; VECTORS; GENE; IDENTIFICATION; HEMOLYSIN
Research Fronts: 91-4817 003 (LIPASE GENE; CDNA FOR STIMULATORY GDP/GTP EXCHANGE PROTEIN; EXPRESSION OF MESSENGER-RNA)
91-0730 002 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-8041 001 (INDUCIBLE T7...

5/3,K/89 (Item 55 from file: 34) Links

Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02410627 Genuine Article#: KZ177 No. References: 40
TNPHOA SALMONELLA-ABORTUSOVIS MUTANTS UNABLE TO ADHERE TO EPITHELIAL-CELLS AND WITH REDUCED VIRULENCE IN MICE

Author: RUBINO S; LEORI G; RIZZU P; ERRE G; COLOMBO MM; UZZAU S; MASALA G; CAPPUCCINELLI P
Corporate Source: UNIV SASSARI,IST MICROBIOL & VIROL/I-07100 SASSARI//ITALY/; UNIV ROMA LA SAPIENZA,DIPARTIMENTO BIOL CELLULARE & SVILUPPO/I-00185 ROME//ITALY/ ; CNR,IST GENET MOLEC,PORTO CONTE RES LAB/SASSARI//ITALY/; IST ZOOPROFILATT SPERIMENTALE SARDEGNA/SASSARI//ITALY/
Journal: INFECTION AND IMMUNITY , 1993 , V 61 , N5 (MAY) , P 1786-1792
ISSN: 0019-9567
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
TNPHOA SALMONELLA-ABORTUSOVIS MUTANTS UNABLE TO ADHERE TO EPITHELIAL-CELLS AND WITH REDUCED VIRULENCE IN MICE
Abstract: ...understand the role of genes involved in pathogenicity, we investigated S. abortusovis with the random mutagenic TnphoA transposon. A total of 95 S. abortusovis TnphoA mutants yielding alkaline phosphatase active fusion protein were obtained. In this way we created a bank... ...identify any phenotypic modification which could affect the periplasmic and/or exported proteins involved in virulence. The TnphoA mutants were screened for the ability to adhere to epithelial cells: a total of 23 mutant strains lost this phenotypic feature. To detect the chromosomal TnphoA insertions, DNA was restricted by... ...sequence. Southern blotting analysis revealed the existence of four classes of integration. Colonies of adhesiveless mutants appear to be as smooth as the S. abonusovis wild type, and electrophoretic analysis indicates a normal lipopolysaccharide profile. To identify mutations affecting genes encoding for outer membrane proteins (OMPs), the alkaline phosphatase portion of the fusion proteins was revealed in TnphoA mutants by immunoblotting with specific antibodies. A mutation in OMPs was detected in seven mutants. Restriction analysis identified in four mutants a common region of 2 kb where alterations in genes coding for OMPs occur. We suggested that this region is involved in pathogenicity in mice, since a group of mutant strains has shown reduced virulence in mice and one mutant is completely avirulent. Furthermore, after mice were exposed orally to these mutants, significant protection against oral challenge with the parental virulent strain resulted.
Identifiers-- ...OUTER-MEMBRANE PROTEINS; VIBRIO-CHOLERAE; POLYACRYLAMIDE GELS; TYPHIMURIUM; IDENTIFICATION; MUTAGENESIS; PLASMIDS; LIPOPOLYSACCHARIDES; DEFICIENT; INVASION
Research Fronts: 91-0730 001 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-3106 001 (IDENTIFICATION OF ... ...ASSOCIATED PROTEIN; ACTIN ISOFORM EXPRESSION IN CULTURED ARTERIAL SMOOTH-MUSCLE CELLS)
91-4817 001 (LIPASE GENE; CDNA FOR STIMULATORY GDP/GTP EXCHANGE PROTEIN; EXPRESSION OF MESSENGER-RNA)
91-5452 001 (LISTERIA-MONOCYTOGENES VIRULENCE FACTORS; BACTERIAL ENTRY; HOST-CELLS INVITRO; HEAT-SHOCK PROTEINS)
91-6896 001 (PLASMID PROFILES; ENTEROTOXIGENIC...

5/3,K/90 (Item 56 from file: 34) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02313081 Genuine Article#: KT165 No. References: 52
SYNTHESIS OF LIPOPOLYSACCHARIDE-O SIDE-CHAINS BY PSEUDOMONAS-AERUGINOSA PAO1 REQUIRES THE ENZYME PHOSPHOMANNOMUTASE

Author: GOLDBERG JB; HATANO K; PIER GB
Corporate Source: HARVARD UNIV,BRIGHAM & WOMENS HOSP,SCH MED,DEPTMED,CHANNING LAB/BOSTON//MA/02115
Journal: JOURNAL OF BACTERIOLOGY , 1993 , V 175 , N6 (MAR) , P 1605-1611
ISSN: 0021-9193
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: We have cloned a lipopolysaccharide (LPS) biosynthetic gene, from Pseudomonas aeruginosa PAO1 that complements the defect in the production and incorporation of LPS O side chains in the LPS-rough strain AK1012. This gene was characterized by pulsed-field gel electrophoresis, deletion and restriction mapping of the cloned DNA... ...map to the 7-to-11-min region of the P. aeruginosa chromosome, and the gene needed for complementation of the LPS-rough phenotype was contained on a 2.6-kb HindIII-SacI fragment. This same size restriction fragment contains the alginate gene algC, which encodes the enzyme phosphomannomutase (PMM) and also maps to this region of the... ...deficient in PMM activity, and this activity was restored to parental levels when the cloned gene was transferred to strain AK1012. In addition, the cloned gene could complement the PMM deficiency in the algC mutant strain 8858, and the cloned algC gene could restore the LPS-smooth phenotype to strain AK1012. These results indicate that the gene we have cloned is equivalent to the alginate gene algC. We designate this gene pmm to emphasize that it encodes the enzyme PMM, which has been shown to be...
Identifiers-- ...WEIGHT POLYSACCHARIDE; CYSTIC-FIBROSIS PATIENTS; FIELD ELECTROPHORESIS; GEL-ELECTROPHORESIS; STRAIN PAO; CLONING; ALGINATE; GENES; EXPRESSION; VIRULENCE
Research Fronts: ...GRAM-NEGATIVE BACTERIA; PSEUDOMONAS-DENITRIFICANS DNA FRAGMENT)
91-0730 002 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS- PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-1559 001 (SECRETION GENES OF PSEUDOMONAS-AERUGINOSA ALKALINE PROTEASE; EXPRESSION VECTORS IN GRAM-NEGATIVE BACTERIA; SITE-DIRECTED MUTAGENESIS; ANAEROBIC REGULATION)
91-5382 001 (DNA PROBE; T-CELL RECEPTOR GENES; CHROMOSOMAL LOCALIZATION; GENOMIC SOUTHERN...

5/3,K/91 (Item 57 from file: 34) Links
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02200468 Genuine Article#: KJ553 No. References: 33
INACTIVATION OF THE ESCHERICHIA-COLI B41 (O101-K99/F41) RFB GENE ENCODING AN 80-KDA POLYPEPTIDE RESULTS IN THE SYNTHESIS OF AN ANTIGENICALLY ALTERED LIPOPOLYSACCHARIDE IN ESCHERICHIA-COLI K-12

Author: CHEAH KC; MANNING PA
Corporate Source: UNIV ADELAIDE,DEPT MICROBIOL & IMMUNOL,GPO BOX 498/ADELAIDE/SA 5001/AUSTRALIA/; UNIV ADELAIDE,DEPT MICROBIOL & IMMUNOL,GPO BOX 498/ADELAIDE/SA 5001/AUSTRALIA/
Journal: GENE , 1993 , V 123 , N1 (JAN 15) , P 9-15
ISSN: 0378-1119
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
INACTIVATION OF THE ESCHERICHIA-COLI B41 (O101-K99/F41) RFB GENE ENCODING AN 80-KDA POLYPEPTIDE RESULTS IN THE SYNTHESIS OF AN ANTIGENICALLY ALTERED LIPOPOLYSACCHARIDE IN...
Abstract: ...Proteins E and F are not required for O-antigen biosynthesis. The introduction of frameshift mutations within the region encoding protein B resulted in the synthesis of an antigenically altered LPS... ...the control of LPS chain length and antigenic structure. The nucleotide sequence of the rfb gene encoding protein B has been determined, confirming it to be a 697-amino acid protein...
Research Fronts: 91-0730 002 (O-SPECIFIC POLYSACCHARIDE CHAIN; ACTINOBACILLUS-PLEUROPNEUMONIAE SEROTYPE-7 LIPOPOLYSACCHARIDE; LIPID-A COMPONENT; BROWN SEAWEED ECKLONIA-KUROME)
91-4817 002 (LIPASE GENE; CDNA FOR STIMULATORY GDP/GTP EXCHANGE PROTEIN; EXPRESSION OF MESSENGER-RNA)

91-0799 001 (ENTEROHEMORRHAGIC... ...IN CULTURED ARTERIAL SMOOTH-MUSCLE CELLS)
91-3898 001 (GROWTH OF ESCHERICHIA-COLI; PLASMID-ENCODED VIRULENCE GENE; INVIVO FUNCTION; MUTANT STRAINS; POSITIVE REGULATOR)
91-6470 001 (MAJOR NUCLEOCAPSID PROTEIN GENE; VARIABLE DOMAINS; ANABAENA SP STRAIN PCC-7120)
91-7693 001 (ENDOTOXIN LIPOPOLYSACCHARIDE; SEPTIC SHOCK; MULTIPLE...

5/3,K/92 (Item 58 from file: 34) Links
Fulltext available through: ScienceDirect
SciSearch(R) Cited Ref Sci

01672439 Genuine Article#: HQ989 No. References: 23
CONSTRUCTION OF A BROAD HOST RANGE SHUTTLE VECTOR FOR GENE CLONING AND EXPRESSION IN ACTINOBACILLUS-PLEUROPNEUMONIAE AND OTHER PASTEURELLACEAE

Author: FREY J
Corporate Source: UNIV BERN,INST VET BACTERIOL,LANGGASSSTR 122/CH-3012 BERN//SWITZERLAND/
Journal: RESEARCH IN MICROBIOLOGY , 1992 , V 143 , N3 (MAR-APR) , P 263-269
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
CONSTRUCTION OF A BROAD HOST RANGE SHUTTLE VECTOR FOR GENE CLONING AND EXPRESSION IN ACTINOBACILLUS-PLEUROPNEUMONIAE AND OTHER PASTEURELLACEAE
Abstract: ...XN, based on plasmid RSF1010, which enable cloning and efficient expression of genes in Actinobacillus pleuropneumoniae and Pasteurella haemolytica and in Escherichia coli. The vectors consist of the minimal autonomous replicon of the broad host range plasmid RSF1010 and a type II chloramphenicol acetyl transferase gene for chloramphenicol resistance selection. In addition, they contain a gene expression cassette based on the E. coli bacteriophage T4 gene 32 promoter region and a transcription stop signal, which are separated by a segment of ... ...subsequent selection for chloramphenicol resistance was used for the introduction of the vectors in A. pleuropneumoniae and P. haemolytica. A promoterless xylE gene from the Pseudomonas putida TOL plasmid was cloned onto pJFF224-NX. This plasmid enabled efficient expression of active catechol2,3oxygenase in A. pleuropneumoniae and P. haemolytica. It was stably maintained in A. pleuropneumoniae without antibiotic selection, showing less than 0.1% loss after 100 generations, while native RSF1010...
Identifiers-- ...INVITRO INSERTIONAL MUTAGENESIS; GRAM-NEGATIVE BACTERIA; PLASMID; DNA; SYSTEM
Research Fronts: 90-1578 001 (AGROBACTERIUM-TUMEFACIENS VIRULENCE GENES; RHIZOBIUM-LEGUMINOSARUM BIOVAR PHASEOLI; COMMON ANCESTOR; PLANT FLAVONOIDS)
90-2362 001 (STA58 MAJOR ANTIGEN GENE; RHODOCOCCUS-FASCIANS CLONING VECTORS; ESCHERICHIA-COLI CHROMOSOME; PRECISE IDENTIFICATION)
90-3110 001 (IDENTIFICATION OF FRAGMENTS... ...PHENOL DEGRADATION; MANDELATE PATHWAY; AROMATIC SUBSTANCES; TOL PLASMID; BENZOYLFORMATE DECARBOXYLASE)
90-7840 001 (ACTINOBACILLUS (HEMOPHILUS) PLEUROPNEUMONIAE SEROTYPE-1; SWINE HERDS; CAPSULAR POLYSACCHARIDE ANTIGENS)

5/3,K/93 (Item 1 from file: 50) Links
Fulltext available through: USPTO Full Text Retrieval Options
CAB Abstracts

0008228181 CAB Accession Number: 20023091959
Actinobacillus pleuropneumoniae serotype 1 carrying the defined aroA mutation is fully avirulent in the pig.

Garside, L. H.; Collins, M.; Langford, P. R.; Rycroft, A. N.
Author email address: arycroft@rvc.ac.uk
Veterinary Bacteriology Group, Department of Pathology and Infectious Disease, Royal Veterinary College, Hawkshead Lane, North Mymms, Herts. AL9 7TA, UK.
Research in Veterinary Science vol. 72 (2): p.163-167
Publication Year: 2002

ISSN: 0034-5288
Digital Object Identifier: 10.1053/rvsc.2002.0554
Publisher: W.B. Saunders London , UK
Language: English Record Type: Abstract
Document Type: Journal article
Actinobacillus pleuropneumoniae serotype 1 carrying the defined aroA mutation is fully avirulent in the pig.
The aroA gene from A. pleuropneumoniae serotype 1 reference strain 4074 was isolated and sequenced. The gene complemented the aroA mutation in Escherichia coli AB2829. A kanamycin resistance cassette was inserted into the aroA gene and the mutant gene was reintroduced into A. pleuropneumoniae by allelic replacement. Nine piglets were divided into 3 groups. Groups A and B were given the aroA mutant at low and high dose, respectively, whereas group C received the parent organism at low dose. The intratracheal infection of pigs with A. pleuropneumoniae aroA caused no signs of respiratory disease or lung lesions in any of the animals... ... acute pleuropneumonia. All animals infected with the unaltered control strain developed acute disease. The aroA mutant was rapidly eliminated from the lungs and tonsil of infected animals. The mutant may represent a safely attenuated strain for use in live bacterial vaccination or the delivery of antigen by the intranasal route. However, the residence time of the mutant in the respiratory tract of the pig may be too short for it to be...

Descriptors: ...mutants; ... ...mutations; ... ...virulence
Organism Descriptors: Actinobacillus pleuropneumoniae;

5/3,K/94 (Item 2 from file: 50) Links
Fulltext available through: USPTO Full Text Retrieval Options
CAB Abstracts

0008137579 CAB Accession Number: 20023000038
Attenuation of Actinobacillus pleuropneumoniae by inactivation of aro Q.

Ingham, A.; Zhang YaMei; Prideaux, C.
CSIRO, Livestock Industries, Private Bag 24, Geelong, Vic. 3220, Australia.
Veterinary Microbiology vol. 84 (3): p.263-273
Publication Year: 2002
ISSN: 0378-1135
Digital Object Identifier: 10.1016/S0378-1135(01)00465-5
Publisher: Elsevier Science B.V. Amsterdam , Netherlands
Language: English Record Type: Abstract
Document Type: Journal article
Attenuation of Actinobacillus pleuropneumoniae by inactivation of aro Q.
Actinobacillus pleuropneumoniae is the aetiological agent of porcine pleuropneumonia, a disease resulting in morbidity and mortality of... ... losses within the swine industry. In order to construct a potential vaccine strain of A. pleuropneumoniae for control of this disease, the aro Q gene, required for the aromatic biosynthetic pathway, was targeted for inactivation. The resulting strain was tested for virulence within pigs. The aro Q gene and an adjacent gene, dap D, were cloned. A recombination cassette for inactivation of aro Q was constructed from these cloned genes by inserting an ampicillin resistance gene and this was transformed into A. pleuropneumoniae . Integration of this construct into the chromosomal location of aro Q and disruption of the aro Q/ dap D gene arrangement was confirmed through PCR and Southern analysis. The resulting HS25 aro Q mutants were unable to grow in a chemically defined medium and following intratracheal delivery to pigs... ... greater than that of the parent strain. Complementation with an in trans, functional, aro Q gene restored the ability of the mutant strain to grow in a chemically defined medium and virulence when tested in pigs, confirming attenuation results from inactivation of aro Q. In conclusion, this work has constructed a defined mutant of A. pleuropneumoniae that is attenuated and may be safely delivered live to pigs.

Descriptors: ...mutants; ... ...virulence

Organism Descriptors: Actinobacillus pleuropneumoniae;

5/3,K/95 (Item 3 from file: 50) Links
Fulltext available through: USPTO Full Text Retrieval Options
CAB Abstracts

0007082759 CAB Accession Number: 19952216388
Association of the CAMP phenomenon in Actinobacillus pleuropneumoniae with the RTX toxins ApxI, ApxII and Apx III.

Frey, J.; Kuhn, R.; Nicolet, J.
Institute of Veterinary Bacteriology, University of Berne, Laenggasstrasse 122, CH-3012 Berne, Switzerland.
FEMS Microbiology Letters vol. 124 (2): p.245-251
Publication Year: 1994
ISSN: 0378-1097
Language: English Record Type: Abstract
Document Type: Journal article
Association of the CAMP phenomenon in Actinobacillus pleuropneumoniae with the RTX toxins ApxI, ApxII and Apx III.
A haemolysin-deficient and CAMP-negative A. pleuropneumoniae serotype 5 mutant was complemented with the genes encoding the RTX toxins ApxI and ApxII cloned on the... ... CAMP reaction, and ApxII the weakest. It is concluded that the CAMP effect of A. pleuropneumoniae was caused by the toxins and can be used to detect ApxIII on blood agar...

Descriptors: ...virulence; ... ...gene expression
Organism Descriptors: ...Actinobacillus pleuropneumoniae

5/3,K/96 (Item 1 from file: 71) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
ELSEVIER BIOBASE

03587857 2007009628
Identification of the Actinobacillus pleuropneumoniae leucine-responsive regulatory protein and its involvement in the regulation of in vivo-induced genes

Wagner T.K.; Mulks M.H.
Address: M.H. Mulks, 5193 Biomedical and Physical Sciences Building, Michigan State University, East Lansing, MI 48824 , United States
Email: mulks@msu.edu
Journal : Infection and Immunity , 75/1 (91-103) , 2007 , United States
CODEN: INFIB
ISSN: 0019-9567
Document Type: Article
Languages: English Summary Languages: English
No. of References: 68
Identification of the Actinobacillus pleuropneumoniae leucine-responsive regulatory protein and its involvement in the regulation of in vivo-induced genes

Actinobacillus pleuropneumoniae is a gram-negative bacterial pathogen that causes a severe hemorrhagic pneumonia in swine. We... ...amino acids (BCAAs) is a cue that induces the expression of a subset of A. pleuropneumoniae genes identified as specifically induced during infection of the natural host animal by using an... ...coli to regulate many genes, including genes involved in BCAA biosynthesis. We hypothesized that A. pleuropneumoniae contains a regulator similar to Lrp and that this protein is involved in the regulation... ...have increased expression in the absence of BCAAs. We report the identification of an A. pleuropneumoniae serotype 1 gene encoding a protein with similarity to amino acid sequence and functional domains of other reported Lrp proteins. We further show that purified A.

pleuropneumoniae His SUB6-Lrp binds in vitro to the A. pleuropneumoniae promoter regions for ilvI, antisense cps1AB, lrp, and nqr. A genetically defined A. pleuropneumoniae lrp mutant was constructed using an allelic replacement and sucrose counterselection method. Analysis of expression from the ilvI and antisense cps1AB promoters in wild-type, lrp mutant, and complemented lrp mutant strains indicated that Lrp is required for induction of expression of ilvI under BCAA limitation...

CLASSIFICATION CODE AND DESCRIPTION:
Modlecular Sequence Databank Number: ...Virulence

5/3,K/97 (Item 2 from file: 71) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
ELSEVIER BIOBASE

01349371 2000024148
Neisseria meningitidis expressing transferrin binding proteins of Actinobacillus pleuropneumoniae can utilize porcine transferrin for growth

Litt D.J.; Palmer H.M.; Borriello S.P.
Address: S.P. Borriello, Central Public Health Laboratory, Colindale Ave., Colindale, London NW9 5HT , United Kingdom
Email: pborriello@phls.nhs.uk
Journal : Infection and Immunity , 68/2 (550-557) , 2000 , United States
CODEN: INFIB
ISSN: 0019-9567
Document Type: Article
Languages: English Summary Languages: English
No. of References: 49
Neisseria meningitidis expressing transferrin binding proteins of Actinobacillus pleuropneumoniae can utilize porcine transferrin for growth

Homologous recombination was used to generate a number of mutants of serogroup B Neisseria meningitidis B16B6 with the following characteristics: (i) an inability to bind... ...ap)B(ap)] due to replacement of the meningococcal Tbp with the Tbp of Actinobacillus pleuropneumoniae. During construction of the B16B6(Str(r))/tbpA(ap)B(ap) strain, transformants expressing only TbpA or TbpB of A. pleuropneumoniae were isolated [strains B16B6(Str(r))/tbpA(ap)Bsup - and B16B6(Str(r))/tbpAsup -B(ap)]. Expression of the A. pleuropneumoniae Tbp in N. meningitidis B16B6 was iron regulated and expressed under the control of the...

SPECIES DESCRIPTORS:
Classification Code and Description: Neisseria meningitidis; Actinobacillus pleuropneumoniae

CLASSIFICATION CODE AND DESCRIPTION:
Modlecular Sequence Databank Number: ...Recombination and Gene Conversion
86.7.3.5 - IMMUNOLOGY AND INFECTIOUS DISEASES... ...Virulence

5/3,K/98 (Item 3 from file: 71) Links
Fulltext available through: USPTO Full Text Retrieval Options
ELSEVIER BIOBASE

01232631 1999209343
A single-step transconjugation system for the introduction of unmarked deletions into Actinobacillus pleuropneumoniae serotype 7 using a sucrose sensitivity marker

Oswald W.; Tonpitak W.; Ohrt G.; Gerlach G.-F.
Address: G.F. Gerlach, Tierarztliche Hochschule Hannover, Institut Mikrobiologie/Tierseuchen, Bischofsholer Damm 15, 30173 Hannover , Germany
Email: ggerlach@micro.tiho-hannover.de

Journal : FEMS Microbiology Letters , 179/1 (153-160) , 1999 , Netherlands
CODEN: FMLED
ISSN: 0378-1097
Publisher Item Identifier: S0378109799004061
Document Type: Article
Languages: English Summary Languages: English
No. of References: 23
A single-step transconjugation system for the introduction of unmarked deletions into Actinobacillus pleuropneumoniae serotype 7 using a sucrose sensitivity marker

Research on the porcine respiratory tract pathogen Actinobacillus pleuropneumoniae requires the availability of improved genetic tools. Therefore, using the sacB gene of Bacillus subtilis, we developed a sucrose-based counterselection system that allows rapid curing of an Escherichia coli-A. pleuropneumoniae shuttle vector as well as the introduction of unmarked mutations into the A. pleuropneumoniae chromosome. A cassette containing the Tn903 kanamycin resistance determinant (km(r)) and the sacB gene expressed from the A. pleuropneumoniae omlA promoter was introduced by homologous recombination into the ureC gene of A. pleuropneumoniae. The resultant stable plasmid cointegrates were kanamycin-resistant, sucrose-sensitive, and urease-positive. A simple... ...agar plates without an additional transconjugation step allowed the efficient isolation of urease-negative A. pleuropneumoniae mutants that had lost the km(r)-sacB cassette. Copyright (C) 1999 Federation of European Microbiological...

DESCRIPTORS:
Actinobacillus pleuropneumoniae; Counterselection; sacB gene

SPECIES DESCRIPTORS:
Classification Code and Description: Actinobacillus pleuropneumoniae

CLASSIFICATION CODE AND DESCRIPTION:
Modlecular Sequence Databank Number: ...Virulence
86.7.3.6 - IMMUNOLOGY AND INFECTIOUS DISEASES

5/3,K/99 (Item 1 from file: 73) Links

13491914 EMBASE No: 2005544428
Truncation of the lipopolysaccharide outer core affects susceptibility to antimicrobial peptides and virulence of Actinobacillus pleuropneumoniae serotype 1

Ramjeet M.; Deslandes V.; St. Michael F.; Cox A.D.; Kobisch M.; Gottschalk M.; Jacques M.
M. Jacques, Groupe de Recherche Sur Les Maladies Infectieuses du Porc, Faculte de Medecine Veterinaire, Universite de Montreal, St-Hyacinthe, Que. J2S 7C6 Canada
Author Email: mario.jacques@umontreal.ca
Journal of Biological Chemistry (J. BIOL. CHEM.) (United States) 25 NOV 2005 , 280/47 (39104-39114)
CODEN: JBCHA ISSN: 0021-9258
Document Type: Journal ; Article
Language: ENGLISH Summary Language: ENGLISH
Number Of References: 46
Truncation of the lipopolysaccharide outer core affects susceptibility to antimicrobial peptides and virulence of Actinobacillus pleuropneumoniae serotype 1

...the core oligosaccharide region of the lipopolysaccharide (LPS) is essential for optimal adhesion of Actinobacillus pleuropneumoniae, an important swine pathogen, to respiratory tract cells. Rough LPS and core LPS mutants of A. pleuropneumoniae serotype 1 were generated by using a mini-Tn10 transposon mutagenesis system. Here we performed a structural analysis of the oligosaccharide region of three core LPS

mutants that still produce the same O-antigen by using methylation analyses and mass spectrometry. We... ...which showed that purified LPS of the parent strain, the rough LPS and core LPS mutants, had the same ability to stimulate the production of cytokines. Most interestingly, an in vitro susceptibility test of these LPS mutants to antimicrobial peptides showed that the three core LPS mutants were more susceptible to cationic peptides than both the rough LPS mutant and the wild type parent strain. Furthermore, experimental pig infections with these mutants revealed that the galactose (Gal I) and D,D-heptose (Hep IV) residues present in the outer core of A. pleuropneumoniae serotype 1 LPS are important for adhesion and overall virulence in the natural host, whereas deletion of the terminal GalNAc-Gal II disaccharide had no... ...suggest that an intact core-lipid A region is required for optimal protection of A. pleuropneumoniae against cationic peptides and that deletion of specific residues in the outer LPS core results in the attenuation of the virulence of A. pleuropneumoniae serotype 1. (c) 2005 by The American Society for Biochemistry and Molecular Biology, Inc.
MEDICAL DESCRIPTORS:
* Actinobacillus pleuropneumoniae; *antibiotic sensitivity; *peptide analysis; *bacterial virulence
swine; serotyping; lung alveolus macrophage; cytokine production; antimicrobial activity; cation transport; gene deletion; attenuation ; nonhuman; controlled study; animal tissue; animal cell; article; priority journal

5/3,K/100 (Item 2 from file: 73) Links
Fulltext available through: USPTO Full Text Retrieval Options
EMBASE

12646726 EMBASE No: 2004245359
Surface polysaccharides and iron-uptake systems of Actinobacillus pleuropneumoniae

Jacques M.
Dr. M. Jacques, Canadian Research Network, Faculty of Veterinary Medicine, Universite de Montreal, 3200 Sicotte, St-Hyacinthe, Que. J2S 7C6 Canada
Author Email: mario.jacques@umontreal.ca
Canadian Journal of Veterinary Research (CAN. J. VET. RES.) (Canada) 2004 , 68/2 (81-85)
CODEN: CJVRE ISSN: 0830-9000
Document Type: Journal ; Review
Language: ENGLISH Summary Language: ENGLISH; FRENCH
Number Of References: 42
Surface polysaccharides and iron-uptake systems of Actinobacillus pleuropneumoniae

Actinobacillus pleuropneumoniae is the etiologic agent of porcine pleuropneumonia. Infection by A. pleuropneumoniae is a multifactorial process governed by many virulence factors acting alone or, more often, in concert to establish the pathogen in the porcine ... ...of this short review is to present recent data concerning important surface molecules of A. pleuropneumoniae; namely, lipopolysaccharides, capsular polysaccharides, and a subset of outer membrane proteins involved in iron uptake.
MEDICAL DESCRIPTORS:
* iron transport; *Actinobacillus pleuropneumoniae; *swine disease --etiology--et data analysis; bacterial membrane; bacterial pneumonia--etiology--et; bacterial virulence; bacterium adherence; respiratory system; gene mutation; gene cluster; biosynthesis; host pathogen interaction; bacterial strain; bacterial growth; energy transfer; bacterial infection--etiology--et...

5/3,K/101 (Item 3 from file: 73) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
EMBASE

11866618 EMBASE No: 2002432400

Construction of an Actinobacillus pleuropneumoniae serotype 2 prototype live negative-marker vaccine

Tonpitak W.; Baltes N.; Hennig-Pauka I.; Gerlach G.F.
G.F. Gerlach, Inst. fur Mikrobiol./Tierseuchen, Tieraerztliche Hochschule, D-30173 Hanover Germany
Author Email: gfgerlach@gmx.de
Infection and Immunity (INFECT. IMMUN.) (United States) 2002 , 70/12 (7120-7125)
CODEN: INFIB ISSN: 0019-9567
Document Type: Journal ; Article
Language: ENGLISH Summary Language: ENGLISH
Number Of References: 22
Construction of an Actinobacillus pleuropneumoniae serotype 2 prototype live negative-marker vaccine

Deletions were introduced into the ureC and apxIIA genes of an Actinobacillus pleuropneumoniae serotype 2 strain by homologous recombination and counterselection. The double-mutant contains no foreign DNA, is highly attenuated, protects pigs from homologous challenge upon a single...
MEDICAL DESCRIPTORS:
* pneumonia--drug resistance--dr; *pneumonia--etiology--et; *pneumonia --prevention--pc; *Actinobacillus pleuropneumoniae; *vaccination
swine; serotype; plasmid; immunization; humoral immunity; strain difference ; antibiotic resistance; bacterial virulence; enzyme linked immunosorbent assay; gene mutation; polymerase chain reaction ; nonhuman; animal model; controlled study; article; priority journal

5/3,K/102 (Item 4 from file: 73) Links
Fulltext available through: USPTO Full Text Retrieval Options Blackwell Publishing
EMBASE

05916468 EMBASE No: 1994323477
The RTX haemolysins ApxI and ApxII are major virulence factors of the swine pathogen Actinobacillus pleuropneumoniae: Evidence from mutational analysis

Tascon R.I.; Vazquez-Boland J.A.; Gutierrez-Martin C.B.; Rodriguez-Barbosa I.; Rodriguez-Ferri E.F.
Unidad de Microbiologia/Inmunologia, Faculdad de Veterinaria, Universidad Complutense,28040 Madrid Spain
Molecular Microbiology (MOL. MICROBIOL.) (United Kingdom) 1994 , 14/2 (207-216)
CODEN: MOMIE ISSN: 0950-382X
Document Type: Journal ; Article
Language: ENGLISH Summary Language: ENGLISH
The RTX haemolysins ApxI and ApxII are major virulence factors of the swine pathogen Actinobacillus pleuropneumoniae: Evidence from mutational analysis

The involvement of the RTX haemolysins (ApxI and ApxII) of the swine pathogen Actinobacillus pleuropneumoniae in virulence was investigated using haemolysin-deficient mutants constructed by a mini-Tn10 mutagenesis procedure. Two types of haemolysin mutant with single insertions of the transposon were obtained from a serotype 1 strain producing both... ...ApxII. The chromosomal regions flanking mini-Tn10 were cloned and sequenced. In the non-haemolytic mutant, the transposon had inserted in apxIB, a gene involved in the exportation of ApxI and ApxII toxins. The weakly haemolytic mutant resulted from the disruption of the structural gene for ApxI. Both mutations in the ApxI operon were associated with a significant loss of virulence for mice and pigs, demonstrating that haemolysins are involved in A. pleuropneumoniae pathogenicity. The non-haemorytic mutant was apathogenic and the weakly haemolytic mutant retained some virulence for pigs, suggesting that both ApxI and ApxII are needed for full virulence.

DRUG DESCRIPTORS:
* hemolysin--endogenous compound--ec; *virulence factor--endogenous compound--ec
MEDICAL DESCRIPTORS:
* actinobacillus pleuropneumoniae; *bacterial mutation; * bacterial virulence

5/3,K/103 (Item 1 from file: 144) Links
Fulltext available through: ScienceDirect
Pascal

17957423 PASCAL No.: 07-0017541

Characterization and immunogenicity of an apxIA mutant of Actinobacillus pleuropneumoniae

FUZHOU XU; XIAOLING CHEN; AIHUA SHI; BING YANG; JINLUO WANG; YONGQING LI; XIN GUO; BLACKALL P J; HANCHUN YANG
Key Laboratory of Preventive Veterinary Medicine of Ministry of Agriculture, College of Veterinary Medicine, China Agricultural University, No. 2 Yuanmingyuan West Road, Haidian District, Beijing 100094, China; Institute of Animal Science and Veterinary Medicine, Beijing Academy of Agriculture and Forestry Sciences, Beijing 100089, China; Queensland Department of Primary Industries and Fisheries, Animal Research Institute, Yeerongpilly, Qld 4105, Australia
Journal: Veterinary microbiology : (Amsterdam), 2006, 118 (3-4) 230-239
Language: English

Characterization and immunogenicity of an apxIA mutant of Actinobacillus pleuropneumoniae
Actinobacillus pleuropneumoniae is the aetiological agent of porcine pleuropneumonia, a highly contagious and often fatal disease. A...

... potentially capable of cross-serovar protection, was constructed by deleting the section of the apxIA gene coding for the C-terminal segment of ApxI toxin of the A. pleuropneumoniae serovar 10 reference strain (D13039) and inserting a chloramphenicol resistance gene cassette. The mutant strain (termed D13039A SUP - Chl SUP r) produced an approximately 48 kDa protein corresponding to the N-terminus of the ApxI toxin, and exhibited no haemolytic activity and lower virulence in mice compared with the parental strain. The mutant was evaluated in a vaccination-challenge trial in which pigs were given two intra-nasal doses of the mutant at 14 days intervals and then challenged 14 days after the last vaccination with either A. pleuropneumoniae serovar 1 (4074) or serovar 2 (S1536) or serovar 10 (D13039) reference strains. The haemolysin...

... vaccinated pigs, compared with unvaccinated pigs, for serovar 2 challenge. Our work suggests that the mutant strain offers potential as a live attenuated pleuropneumonia vaccine that can provide cross-serovar protection.

English Descriptors: Actinobacillus pleuropneumoniae; Immunogenicity ; Mutation; Gene; Microbiology; Veterinary

French Descriptors: Actinobacillus pleuropneumoniae; Immunogenicite; Mutation; Gene; Microbiologie; Veterinaire

Spanish Descriptors: Actinobacillus pleuropneumoniae;
Inmunogenicidad; Mutacion; Gen; Microbiologia; Veterinario

5/3,K/104 (Item 1 from file: 155) Links
Fulltext available through: USPTO Full Text Retrieval Options
MEDLINE(R)

14784519 PMID: 15001225
Growth phase mediated regulation of the Actinobacillus pleuropneumoniae ApxI and ApxII toxins.

Jarma Erika; Regassa Laura B
Department of Biology, Georgia Southern University, P.O. Box 8042, Statesboro, GA 30460, USA.
Microbial pathogenesis (England) Apr 2004 , 36 (4) p197-203 , ISSN: 0882-4010--Print Journal Code: 8606191
Publishing Model Print
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Growth phase mediated regulation of the Actinobacillus pleuropneumoniae ApxI and ApxII toxins.
Actinobacillus pleuropneumoniae is the causative agent of porcine pleuropneumonia, a highly contagious and often fatal respiratory tract disease of pigs. The Apx toxins are primary virulence factors of this pathogen, with ApxI and ApxII being produced by all highly virulent strains... ...and in this report we examined the effect of growth phase on ApxI and ApxII gene expression. Batch cultures of ApxI- and ApxII-producing strains were grown in heart infusion broth supplemented with beta-NAD, and samples were prepared throughout the growth curve. Maximal gene expression occurred in late exponential or early stationary phase, as indicated by a peak in... ...analysis. The amount of accumulated Apx protein and Apx hemolytic activity confirmed this increase in gene expression. These findings suggest a novel transcriptional regulatory mechanism that enhances Apx gene expression under in vitro conditions of high cell density and/or slow growth rate.
Descriptors: *Actinobacillus pleuropneumoniae--growth and development--GD; *Actinobacillus pleuropneumoniae--metabolism--ME; *Bacterial Proteins--biosynthesis--BI; *Gene Expression Regulation, Bacterial ; Actinobacillus pleuropneumoniae--physiology--PH; Bacterial Proteins --genetics--GE; Bacterial Proteins--metabolism--ME; Bacterial Proteins --toxicity--TO; Blotting, Northern; Electrophoresis, Polyacrylamide Gel; Gene Deletion; Genes, Bacterial; Hemolysin Proteins--biosynthesis --BI; Hemolysin Proteins--genetics--GE; Hemolysin Proteins--metabolism --ME; Hemolysis; Mutation; RNA, Bacterial--analysis--AN; RNA, Messenger--analysis--AN; Virulence Factors--biosynthesis--BI; Virulence Factors--genetics--GE; Virulence Factors --metabolism--ME
Chemical Name: ApxII toxin, bacteria; Bacterial Proteins; Hemolysin Proteins; RNA, Bacterial; RNA, Messenger; Virulence Factors; ApxI toxin, Bacteria

5/3,K/105 (Item 2 from file: 155) Links
Fulltext available through: USPTO Full Text Retrieval Options
MEDLINE(R)

12709331 PMID: 10799278
Isolation and characterization of a capsule-deficient mutant of Actinobacillus pleuropneumoniae serotype 1.

Rioux S; Galarneau C; Harel J; Kobisch M; Frey J; Gottschalk M; Jacques M

Groupe de Recherche sur les Maladies Infectieuses du Porc, and Departement de Pathologie et Microbiologie, Universite de Montreal, St-Hyacinthe, Quebec, J2S 7C6, Canada.
Microbial pathogenesis (ENGLAND) May 2000 , 28 (5) p279-89 , ISSN: 0882-4010--Print Journal Code: 8606191
Publishing Model Print
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Isolation and characterization of a capsule-deficient mutant of Actinobacillus pleuropneumoniae serotype 1.
...causative agent of porcine pleuropneumonia. The purpose of the present study was to isolate a mutant in CPS biosynthesis by using a mini-Tn 10 transposon mutagenesis system and evaluate its adherence to host cells. One mutant apparently did not possess CPS as it did not react with a monoclonal antibody against A. pleuropneumoniae serotype 1 capsular antigen. Absence of capsule was confirmed by flow cytometry and also by... ...insertion of the mini-Tn 10 was determined and found to be in the cpxC gene. Its gene product, CpxC, is a protein involved in polysaccharide transport across the cytoplasmic membrane during CPS biosynthesis. Use of piglet tracheal frozen sections indicated that the CPS mutant adhered significantly (P=0.0001) more than the parent strain. The non-capsular mutant was less virulent in pigs compared to the parent strain and showed no mortality in experimentally infected pigs. The CPS mutant was however resistant to pig serum. This CPS mutant is the first A. pleuropneumoniae mutant in a CPS transport gene. It is also the first time that adherence of a CPS mutant of A. pleuropneumoniae is evaluated. Our observations indicate that capsular polysaccharides of A. pleuropneumoniae serotype 1 are not involved in adherence to piglet tracheal frozen sections but rather mask...
Descriptors: *Actinobacillus Infections--veterinary--VE; *Actinobacillus pleuropneumoniae--genetics--GE; *Bacterial Capsules--genetics--GE; *Swine Diseases--microbiology--MI ; Actinobacillus Infections--microbiology--MI; Actinobacillus Infections --mortality--MO; Actinobacillus Infections--pathology--PA; Actinobacillus pleuropneumoniae--metabolism--ME; Actinobacillus pleuropneumoniae--pathogenicity--PY; Animals; Antibodies, Monoclonal ; Bacterial Adhesion; DNA Transposable Elements; Flow Cytometry; Immunoblotting; Lipopolysaccharides--analysis--AN; Microscopy, Electron; Molecular Sequence Data; Mutagenesis, Insertional; Serotyping; Swine ; Swine Diseases--mortality--MO; Swine Diseases--pathology--PA; Trachea --microbiology--MI; Trachea--pathology--PA; Virulence

5/3,K/106 (Item 1 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

144466531 CA: 144(25)466531w PATENT
Anti-bacterial vaccine compositions comprising attenuated Streptococcus with mutated virulence genes
Inventor (Author): Fuller, Troy Eugene; Wilson, Thomas Larry; Martin, Stephen; Klein, Loretta Kay
Location: USA
Assignee: Pharmacia & Upjohn Company LLC
Patent: PCT International ; WO 200648753 A2 Date: 20060511
Application: WO 2005IB3324 (20051024) *US 2004PV625533 (20041105)
Pages: 127 pp.
CODEN: PIXXD2
Language: English
Patent Classifications:
Class: A61K-000/A
Designated Countries: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BW; BY; BZ; CA; CH; CN; CO; CR; CU; CZ; DE; DK; DM; DZ; EC; EE; EG; ES; FI; GB; GD; GE; GH; GM; HR;

HU; ID; IL; IN; IS; JP; KE; KG; KM; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; LY; MA; MD; MG; MK; MN; MW; MX; MZ; NA; NG; NI; NO; NZ; OM; PG; PH; PL; PT; RO; RU; SC; SD; SE; SG; SK; SL; SM; SY; TJ; TM; TN; TR; TT; TZ; UA; UG; US; UZ; VC; VN; YU; ZA; ZM
Designated Regional: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IS; IT; LT; LU; LV; MC; NL; PL; PT; RO; SE; SI; SK; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG; BW; GH; GM; KE; LS; MW; MZ; NA; SD; SL; SZ; TZ; UG; ZM; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM

5/3,K/107 (Item 2 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

144081971 CA: 144(6)81971j PATENT
Inactivation of pyridoxal 5'-phosphate biosynthesis genes pdx in construction of avirulent strains of pathogens for vaccine use
Inventor (Author): Belitsky, Boris R.
Location: USA
Patent: U.S. Pat. Appl. Publ. ; US 20050287169 A1 Date: 20051229
Application: US 2004869322 (20040616) *US 2003PV479331 (20030617)
Pages: 23 pp.
CODEN: USXXCO
Language: English
Patent Classifications:
Class: 424200100; A61K-039/02A; C12N-015/74B; C12N-001/21B

5/3,K/108 (Item 3 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

141070233 CA: 141(5)70233g PATENT
Actinobacillus pleuropneumoniae virulence genes and use thereof as vaccines for porcine pleuropneumonia
Inventor (Author): Kroll, John Simon; Langford, Paul Richard; Bosse, Janine; Beddek, Amanda; Rycroft, Andrew; Sheehan, Brian
Location: UK,
Assignee: Imperial College Innovations Limited
Patent: PCT International ; WO 200452925 A2 Date: 20040624
Application: WO 2003GB5349 (20031208) *GB 200228691 (20021209)
Pages: 81 pp.
CODEN: PIXXD2
Language: English
Patent Classifications:
Class: C07K-014/195A
Designated Countries: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BW; BY; BZ; CA; CH; CN; CO; CR; CU; CZ; DE; DK; DM; DZ; EC; EE; EG; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NI; NO; NZ; OM; PG; PH; PL; PT; RO; RU; SC; SD; SE; SG; SK; SL; SY; TJ; TM; TN; TR; TT; TZ; UA; UG; US; UZ; VC; VN; YU; ZA; ZM; ZW
Designated Regional: BW; GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZM; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM; AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IT; LU; MC; NL; PT; RO; SE; SI; SK; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG

5/3,K/109 (Item 4 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

141037598 CA: 141(3)37598g PATENT
Antibacterial vaccine compositions comprising attenuated mutant proteins from Gram-negative Pasteurellaceae bacteria
Inventor (Author): Lowery, David E.; Fuller, Troy E.; Kennedy, Michael J.
Location: USA
Assignee: Pharmacia & Upjohn Company
Patent: U.S. Pat. Appl. Publ. ; US 20040110268 A1 Date: 20040610
Application: US 809665 (20010315) *US PV128689 (19990409) *US PV153453 (19990910) *US 545199 (20000406)
Pages: 24 pp., Cont.-in-part of U.S. Ser. No. 545,199.
CODEN: USXXCO
Language: English
Patent Classifications:
Class: 435252300; C07H-021/04A; A61K-039/02B; C12N-001/20B

5/3,K/110 (Item 5 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

139333964 CA: 139(22)333964q PATENT
Gram neg. bacteria with mutations causing attenuated virulence, sequences of virulence-related genes and proteins, and diagnostic, immunogenic and other uses
Inventor (Author): Crooke, Helen Rachel; Shea, Jacqueline Elizabeth; Feldman, Robert Graham; Coutebroze, Sylvain Gabriel; Legros, Francois-xavier
Location: USA
Assignee: Merial Llc
Patent: PCT International ; WO 200386277 A2 Date: 20031023
Application: WO 2003US10308 (20030404) *US PV370282 (20020405) *US 406686 (20030403)

Pages: 170 pp.
CODEN: PIXXD2
Language: English
Patent Classifications:
Class: A61K-000/A
Designated Countries: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CU; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NO; NZ; OM; PH; PL; PT; RO; RU; SC; SD; SE; SG; SK; SL; TJ; TM; TN; TR; TT; TZ; UA; UG; UZ; VC; VN; YU; ZA; ZM; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM
Designated Regional: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZM; ZW; AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IT; LU; MC; NL; PT; RO; SE; SI; SK; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG

5/3,K/111 (Item 6 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

139288895 CA: 139(19)288895e PATENT
Virulence genes of Pasteurella multocida and their use in attenuation of bacteria for vaccine use
Inventor (Author): Crooke, Helen Rachel; Shea, Jacqueline Elizabeth; Feldman, Robert Graham; Goutebroze, Sylvain Gabriel; Le Gros, Francois-Xavier
Location: Fr.
Assignee: Merial
Patent: European Pat. Appl. ; EP 1350796 A1 Date: 20031008
Application: EP 2002290861 (20020405)
Pages: 96 pp.
CODEN: EPXXDW
Language: English

Patent Classifications:
Class: C07K-014/285A; C12N-001/21B; A61K-039/102B; A61K-038/40B; C07K-016/12B; C12Q-001/68B; G01N-033/53B; A61K-035/74B
Designated Countries: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE; MC; PT; IE; SI; LT; LV; FI; RO; MK; CY; AL; TR

5/3,K/112 (Item 7 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

139018384 CA: 139(2)18384b PATENT
Use of aro gene cluster of Streptococcus suis in diagnosis and treatment
Inventor (Author): Gottschalk, Marcelo; Harel, Josee; D'Amours, Benoit; Kobish, Marylene
Location: Can.,
Assignee: Universite De Montreal
Patent: PCT International ; WO 200346183 A2 Date: 20030605
Application: WO 2002CA1796 (20021125) *US PV332012 (20011123)
Pages: 49 pp.
CODEN: PIXXD2
Language: English
Patent Classifications:
Class: C12N-015/52A; C12N-015/31B; C12Q-001/68B; C07K-014/315B; C12N-001/21B; A61K-035/74B; A61K-039/09B; A61K-039/40B; C12R-001/46B
Designated Countries: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CU; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NO; NZ; OM; PH; PL; PT; RO; RU; SC; SD; SE; SG; SI; SK; SL; TJ; TM; TN; TR; TT; TZ; UA; UG; US; UZ; VC; VN; YU; ZA; ZM; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM
Designated Regional: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZM; ZW; AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; SK; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG

5/3,K/113 (Item 8 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

137073236 CA: 137(6)73236p PATENT
Method of reducing bacterial proliferation by altering DNA methyltransferase activity
Inventor (Author): Mahan, Michael J.; Heithoff, Douglas M.; Low, David A.; Sinsheimer, Robert L.
Location: USA
Patent: U.S. Pat. Appl. Publ. ; US 20020086332 A1 Date: 20020704
Application: US 928227 (20010809) *US PV183043 (19990202) *US PV198250 (19990505) *US 495614 (20000201) *US 612116 (20000707)
Pages: 44 pp., Cont.-in-part of U.S. Ser. No. 612,116.
CODEN: USXXCO
Language: English
Patent Classifications:
Class: 435007100; G01N-033/53A

5/3,K/114 (Item 9 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

137041718 CA: 137(4)41718f PATENT
DNA methyltransferase-modulating agents for reducing bacterial virulence, and antimicrobial vaccines
Inventor (Author): Mahan, Michael J.; Heithoff, Douglas M.; Low, David A.; Sinsheimer, Robert L.
Location: USA
Patent: U.S. Pat. Appl. Publ. ; US 20020077272 A1 Date: 20020620
Application: US 927885 (20010809) *US PV183043 (19990202) *US PV198250 (19990505) *US 495614 (20000201) *US 612116 (20000707)
Pages: 44 pp., Cont.-in-part of U.S. Ser. No. 612,116.
CODEN: USXXCO
Language: English
Patent Classifications:
Class: 514001000; A61K-031/00A; A61K-031/52B

5/3,K/115 (Item 10 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

137019375 CA: 137(2)19375v PATENT
Avirulent DNA adenine methylase mutants of pathogenic bacteria for vaccination
Inventor (Author): Mahan, Michael J.; Heithoff, Douglas M.; Low, David A.; Sinsheimer, Robert L.
Location: USA
Patent: U.S. Pat. Appl. Publ. ; US 20020068068 A1 Date: 20020606
Application: US 927765 (20010809) *US PV183043 (19990202) *US PV198250 (19990505) *US 495614 (20000201) *US 612116 (20000707)
Pages: 44 pp., Cont.-in-part of U.S. Ser. No. 612,116.
CODEN: USXXCO
Language: English
Patent Classifications:
Class: 424200100; A61K-039/108A; A61K-039/112B; A61K-039/106B; A61K-039/02B

5/3,K/116 (Item 11 from file: 399) Links
Fulltext available through: ScienceDirect
CA SEARCH(R)

133291998 CA: 133(21)291998x PATENT
Pasteurellaceae virulence genes and proteins and attenuated Pasteurellaceae for use as vaccines
Inventor (Author): Lowery, David E.; Fuller, Troy E.; Kennedy, Michael J.
Location: USA
Assignee: Pharmacia and Upjohn, Inc.
Patent: PCT International ; WO 200061724 A2 Date: 20001019
Application: WO 2000US9218 (20000406) *US PV128689 (19990409) *US PV153453 (19990910)
Pages: 322 pp.
CODEN: PIXXD2
Language: English
Patent Classifications:
Class: C12N-001/21A; C07K-014/285B; A61K-035/74B; A61K-039/02B; C12N-015/63B; C12N-015/31B; C07K-016/12B; C12Q-001/18B
Designated Countries: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM
Designated Regional: GH; GM; KE; LS; MW; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN;

GW; ML; MR; NE; SN; TD; TG

5/3,K/117 (Item 12 from file: 399) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
CA SEARCH(R)

133235048 CA: 133(17)235048a JOURNAL
(Cu,Zn)-superoxide dismutase mutants of the swine pathogen Actinobacillus pleuropneumoniae are unattenuated in infections of the natural host
Author: Sheehan, Brian J.; Langford, Paul R.; Rycroft, Andrew N.; Kroll, J. Simon
Location: Molecular Infectious Diseases Group, Department of Paediatrics, Imperial College School of Medicine, London, UK, W2 1PG
Journal: Infect. Immun.
Date: 2000
Volume: 68 Number: 8 Pages: 4778-4781
CODEN: INFIBR
ISSN: 0019-9567
Language: English
Publisher: American Society for Microbiology

5/3,K/118 (Item 1 from file: 35) Links
Dissertation Abs Online

02152010 ORDER NO: AADAA-I3216184
Identification and regulation of Actinobacillus pleuropneumoniae in vivo induced genes that respond to branched-chain amino acid limitation

Author: Wagner, Trevor Keith
Degree: Ph.D.
Year: 2006
Corporate Source/Institution: Michigan State University (0128)
Source: Volume 6705B of Dissertations Abstracts International.
PAGE 2360 . 211 PAGES
ISBN: 978-0-542-68790-7
Identification and regulation of Actinobacillus pleuropneumoniae in vivo induced genes that respond to branched-chain amino acid limitation

<italic>Actinobacillus pleuropneumoniae</italic> is a Gram-negative bacterial pathogen that is the causative agent of a severe... ...italic> in vivo</italic> expression technology (IVET) system was developed for use in <italic>A. pleuropneumoniae </italic> serotype 1. The IVET system was designed to identify <italic>A. pleuropneumoniae in vivo</italic> induced (<italic> ivi</italic>) genes whose expression is specifically induced during infection... ...host, without the need to identify each individual environmental cue necessary for expression of each gene.

However, to analyze the role of <italic>ivi</italic> genes, it is important to understand the specific cues that regulate expression of each <italic> ivi</italic> gene. It was hypothesized that a limitation of branched-chain amino acids (BCAAs) acts as a... ...is an important cue in the regulation of <italic>ivi</italic> genes and potentially other virulence genes.

One mechanism known to regulate many <italic>Escherichia coli</italic> genes in response to BCAA limitation is leucine-responsive regulatory protein (Lrp). An <italic>A. pleuropneumoniae</italic> gene similar to Lrp was identified and cloned. Purified <italic>A. pleuropneumoniae</italic> His₆-Lrp bound <italic>in vitro</italic> to 2/8 <italic>ivi</italic> promoters identified to respond to BCAA limitation. A genetically-defined <italic>A. pleuropneumoniae lrp</italic> mutant was constructed and used to show the requirement for Lrp in the regulation of several <italic>A. pleuropneumoniae</italic> genes.

To further understand the role of Lrp in virulence, the <italic>A.

pleuropneumoniae lrp</italic> mutant was analyzed in a swine model of respiratory infection. The <italic>lrp</italic> mutant was able to cause disease under the conditions tested, with progression of disease and pathology similar to that seen with wild-type <italic>A. pleuropneumoniae</italic>.

The identification of an environmental stimulus, a regulatory mechanism, and genes regulated by these factors is an important step for understanding the virulence of <italic>A. pleuropneumoniae </italic>. This research offers insight into new avenues of research to further examine the virulence of <italic> A. pleuropneumoniae</italic> and other respiratory pathogens.

5/3,K/119 (Item 2 from file: 35) Links
Dissertation Abs Online

01953292 ORDER NO: AADAA-I3092163
Characterization of the genes of Actinobacillus pleuropneumoniae involved in oxidative stress and pathogenesis

Author: Kastenmayer, Robin Jeanne
Degree: Ph.D.
Year: 2003
Corporate Source/Institution: Michigan State University (0128)
Source: Volume 6405B of Dissertations Abstracts International.
PAGE 2021 . 150 PAGES
Characterization of the genes of Actinobacillus pleuropneumoniae involved in oxidative stress and pathogenesis

<italic>Actinobacillus pleuropneumoniae</italic> is the causative agent of porcine hemorrhagic pleuropneumonia, a severe and contagious respiratory disease. While many virulence factors in <italic>A. pleuropneumoniae</italic> have been identified, there are still many unanswered questions and unknown proteins which represent... ...or effective vaccines. An <italic>in vivo</italic> technology system (IVET) developed in <italic> A. pleuropneumoniae</italic> was refined so that novel virulence factors could be identified and characterized.

Using this system, twenty five unique <italic>in vivo... ...that were upregulated during infection could be divided into four categories: proteins previously identified as virulence factors, those required for metabolism during rapid growth and colonization, proteins of known function that had not been previously characterized as required for virulence, and unknown proteins.

One of these <italic>ivi</italic> genes encodes Ohr, an organic hydroperoxide... ...the new information that can be gained from the use of IVET screens to identify virulence genes.

In order to further characterize the identified <italic>ivi</italic> genes, as well as to construct potential vaccines, genetically defined attenuated mutants are required. Mutant construction was attempted for both <italic> ohr</italic> and for <italic>ilvI</italic>, a gene involved in isoleucine-leucine-valine biosynthesis.

The characterization of <italic>ohr</italic> and initial analysis ... ...addition, the many questions that arise. IVET has contributed to the understanding of <italic>A. pleuropneumoniae</italic> pathogenesis through the identification of virulence factors and by providing an initial platform from which more questions can be asked.

5/3,K/120 (Item 3 from file: 35) Links
Dissertation Abs Online

01754427 ORDER NO: AADAA-INQ51034
The contribution of urease activity to the pathogenesis of Actinobacillus pleuropneumoniae infection in pigs

Author: Bosse, Janine Therese
Degree: Ph.D.
Year: 2000

Corporate Source/Institution: University of Guelph (Canada) (0081)
Source: Volume 6107B of Dissertations Abstracts International.
PAGE 3403 . 144 PAGES
ISBN: 0-612-51034-4
The contribution of urease activity to the pathogenesis of Actinobacillus pleuropneumoniae infection in pigs

Biochemical analyses of the urease from the serotype 1 strain, CM5, of <italic> Actinobacillus pleuropneumoniae</italic> revealed that it should be active in the respiratory tract of pigs where levels... ...urea are low. In order to investigate the possible role(s) of urease activity in virulence of <italic>A. pleuropneumoniae </italic> infection, the genes responsible for urease expression were cloned and sequenced, and urease-negative mutants were generated by transposon mutagenesis. The urease gene cluster contained typical structural (<italic>ureABC</italic>) and accessory genes (<italic>ureEFGD </italic>), separated by... ...the minimal subclone was greatly reduced compared to that of the wild-type <italic> A. pleuropneumoniae</italic>.

Analysis of 19 urease-negative transposon mutants revealed that additional genes are required for urease activity in <italic>A. pleuropneumoniae</italic>. Eleven of the 19 mutants contained insertions within the first 4 genes of a putative nickel and cobalt transport operon... ...clone containing a 15 kbp insert including the putative transport operon together with the urease gene cluster did not require addition of NiCl₂ for high urease activity. The... ...operon, and possibly the urease cluster, may be transcriptionally regulated by the product of this gene. An additional ORF (<italic>utp</italic>) was identified between the transport operon and the urease cluster. The predicted polypeptide encoded by this gene shares a high degree of sequence similarity with mammalian urea transport proteins, although its function in <italic>A. pleuropneumoniae</italic> remains to be determined.

The contribution of urease activity to the pathogenesis of porcine pleuropneumonia was assessed using two different urease-negative mutants. There was no difference in virulence when a <italic>cbiK</italic>::Tn<italic>10</italic> mutant was compared to the parental strain at a high dose of infection (10<super>6... ...cbiK</italic>::Tn<italic>10</italic> nor a <italic>ureG</italic>::Tn<italic>10</italic> mutant (which contained an unmapped second insertion) caused any disease in pigs exposed to a low... ...these studies support the hypothesis that urease activity contributes to the pathogenesis of <italic>A. pleuropneumoniae </italic> infection in pigs.

5/3,K/121 (Item 4 from file: 35) Links
Dissertation Abs Online

01647347 ORDER NO: AAD98-33751
ACTINOBACILLUS PLEUROPNEUMONIAE: INVESTIGATION OF A COMPONENT-BASED SYNTHETIC AND A MODIFIED-LIVE VACCINE FOR THE PREVENTION OF INFECTION AND DISEASE (SWINE, RTX EXOTOXINS)

Author: BACMEISTER, CYNTHIA XOCHITL
Degree: PH.D.
Year: 1998
Corporate Source/Institution: KANSAS STATE UNIVERSITY (0100)
Source: Volume 5905B of Dissertations Abstracts International.
PAGE 2001 . 138 PAGES
ACTINOBACILLUS PLEUROPNEUMONIAE: INVESTIGATION OF A COMPONENT-BASED SYNTHETIC AND A MODIFIED-LIVE VACCINE FOR THE PREVENTION OF...

Actinobacillus pleuropneumoniae (App) is the etiologic agent of a highly contagious, often fatal pleuropneumonia in swine. Commercial... ...represent conformational epitopes.

In the final section, creation and characterization of a streptomycin dependent (SD) mutant of strain 4074 of App, for use as a modified-live vaccine is described. Comparison... ...this strain and the parent strain revealed the two strains to be

phenotypically different. Furthermore, virulence of the mutant strain was reduced. Partial DNA sequences from the mutant and the parent strain were compared. Mutation of the str gene in App serotype 1 either by itself or in association with additional, unrecognized mutations resulted in an attenuated, streptomycin dependent strain.

5/3,K/122 (Item 5 from file: 35) Links
Dissertation Abs Online

01579102 ORDER NO: AAD97-34122
IDENTIFICATION OF IN VIVO INDUCED GENES IN ACTINOBACILLUS PLEUROPNEUMONIAE (RIBOFLAVIN OPERON, PORCINE PLEUROPNEUMONIA)

Author: FULLER, TROY EUGENE
Degree: PH.D.
Year: 1997
Corporate Source/Institution: MICHIGAN STATE UNIVERSITY (0128)
Source: Volume 5805B of Dissertations Abstracts International.
PAGE 2257 . 149 PAGES
IDENTIFICATION OF IN VIVO INDUCED GENES IN ACTINOBACILLUS PLEUROPNEUMONIAE (RIBOFLAVIN OPERON, PORCINE PLEUROPNEUMONIA)

Actinobacillus pleuropneumoniae (APP) is the causative agent of porcine pleuropneumonia, a severe and often fatal respiratory disease... ...by sequence homology with known riboflavin biosynthesis genes, by complementation of known Escherichia coli riboflavin mutants, by analysis of the plasmid encoded proteins and by analysis of the recombinant riboflavin product including spectral analysis, mass spectroscopy and fluorescence. A deletion disruption riboflavin-requiring mutant of a serotype 1 strain was made by targeted mutagenesis of the riboflavin operon. This mutant (AP233) is avirulent at a dosage which is 500 times the established wild type LD... ...contains no native bioluminescence, that the B. subtilis ribBAH genes can complement the attenuating riboflavin mutation in AP233 thus restoring virulence and that the T$\sb4$ terminator effectively eliminates background expression from the pGZRS-19 vector... ...in vivo induced genes in APP, two of which were putatively identified as the mrp gene and the secE-nusG operon. The further identification of in vivo induced genes will help...

5/3,K/123 (Item 6 from file: 35) Links
Dissertation Abs Online

01531396 ORDER NO: AAD97-07246
THE CAPSULAR POLYSACCHARIDE OF ACTINOBACILLUS PLEUROPNEUMONIAE SEROTYPE 5A: ROLE IN SERUM RESISTANCE AND CHARACTERIZATION OF THE GENETIC BASIS FOR EXPRESSION

Author: WARD, CHRISTINE K.
Degree: PH.D.
Year: 1995
Corporate Source/Institution: VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY (0247)
Source: Volume 5709B of Dissertations Abstracts International.
PAGE 5476 . 179 PAGES
THE CAPSULAR POLYSACCHARIDE OF ACTINOBACILLUS PLEUROPNEUMONIAE SEROTYPE 5A: ROLE IN SERUM RESISTANCE AND CHARACTERIZATION OF THE GENETIC BASIS FOR EXPRESSION

Actinobacillus pleuropneumoniae synthesizes a serotype-specific capsular polysaccharide (CP) that protects this bacterium from host defenses. In the presence of anti-CP IgG, encapsulated A. pleuropneumoniae K17 was killed in precolostral calf serum (PCS) but not in normal serum used as a complement source. In contrast, two capsule-deficient mutants were killed in normal serum. The CP of A. pleuropneumoniae contributed to serum-resistance by limiting the amount of C9, a component of the membrane... ...pig anti-K17 LPS serum that blocked anti-CP IgG complement-mediated

killing of A. pleuropneumoniae. This LPS-specific antibody prevented complement-mediated killing of K17 in the presence of potentially bactericidal anti-CP IgG by reducing the deposition of C9 onto A. pleuropneumoniae, and by directing the deposition of C9 to sites on the bacteria where the bound... ...or at different stages of infection to limit the ability of complement to eliminate A. pleuropneumoniae.

Two overlapping regions of the A. pleuropneumoniae J45 capsulation locus were cloned and partially sequenced. One region was conserved among A. pleuropneumoniae serotypes and contained four open reading frames, cpxDCBA, that were highly homologous at both the... ...and to a lesser extent Escherichia coli K1 and K5 (kpsED, kpsMT). The J45 cpxDCBA gene cluster was able to partially complement kpsM::TnphoA or kpsT::TnphoA mutations within a plasmid-encoded E. coli K5 kps locus and restored sensitivity to a K5... ...bacteriophage, indicating that cpxDCBA functioned in capsular polysaccharide export. A DNA region adjacent to A. pleuropneumoniae J45 cpxDCBA was identified that was serotype-specific. This region contained two complete open reading... ...a third partial open reading frame, cpsC. These genes may encode proteins involved in A. pleuropneumoniae J45 CP biosynthesis. A recombinant A. pleuropneumoniae J45 mutant in which the three serotype-specific genes, cpsABC, were partially or completely deleted was generated by allelic exchange. This mutant did not produce intracellular or extracellular CP, was serum-sensitive, and was attenuated in pigs. These studies demonstrated that CP contributed to the serum-resistance and virulence of A. pleuropneumoniae. This noncapsulated mutant will be evaluated as a potential live vaccine strain for the control of swine pleuropneumonia.

5/3,K/124 (Item 7 from file: 35) Links
Dissertation Abs Online

01499707 ORDER NO: AADNN-08564
CHARACTERIZATION OF THE LACZ, GALK, AND GALM GENES OF ACTINOBACILLUS PLEUROPNEUMONIAE (VIRULENCE, MUTAROTASES)

Author: ANDERSON, TIMOTHY JOHN
Degree: PH.D.
Year: 1996
Corporate Source/Institution: UNIVERSITY OF GUELPH (CANADA) (0081)
Source: Volume 5704B of Dissertations Abstracts International.
PAGE 2404 . 182 PAGES
ISBN: 0-612-08564-3
CHARACTERIZATION OF THE LACZ, GALK, AND GALM GENES OF ACTINOBACILLUS PLEUROPNEUMONIAE (VIRULENCE, MUTAROTASES)

In order to learn more about the genetics and physiology of the swine pathogen Actinobacillus pleuropneumoniae, I cloned and analysed the lacZ, galK, and galM genes from a highly virulent serotype 1 strain, CM5. The A. pleuropneumoniae lacZ gene product shares 30 to 35% identity with the bacterial β-galactosidase gene products from Escherichia coli, Klebsiella pneumoniae, Clostridium acetobutylicum, Streptococcus thermophilus, Thermotoga maritima, Arthrobacter sp. and... ...site residues Glu-461 and Tyr-503 found in E. coli are conserved in A. pleuropneumoniae. Downstream of lacZ is an ORF whose protein product shares homology to the Neisseria meningitidis... ...an ORF which encodes a protein which shares 27 to 45% identity with the galM gene products (mutarotasee) from E. coli, Acinetobacter calcoaceticus, and S. thermophilus. Another gene involved in galactose metabolism, galK, is located directly upstream of galM. The A. pleuropneumoniae galK gene product shares significant overall identity (28 to 67%) with the galactokinases from Haemophilus influenzae, Salmonella typhimurium, E. coli, Lactobacillus helviticus, Streptomyces lividans, Kluyveromyces lactis, and Saccharomyces cerevirsiae. The A. pleuropneumoniae GalK shares all five conserved regions identified in other galactokinases, including a sequence motif found... ...coli, and Salmonella typhimurium is present upstream of galK, indicating the gal operon in A. pleuropneumoniae is organized in the order galTKM. Given the organization of these

genes, it is possible...

5/3,K/125 (Item 8 from file: 35) Links
Dissertation Abs Online

01461154 ORDER NO: AADAA-INN99379
THE ROLE OF THE TRANSFERRIN BINDING PROTEINS OF NEISSERIA MENINGITIDIS IN IRON ACQUISITION FROM HUMAN TRANSFERRIN

Author: IRWIN, SEAN WYNDHAM
Degree: PH.D.
Year: 1994
Corporate Source/Institution: UNIVERSITY OF CALGARY (CANADA) (0026)
Source: Volume 5610B of Dissertations Abstracts International.
PAGE 5305 . 212 PAGES
ISBN: 0-315-99379-0

...of Neisseria meningitidis serve an intricate role in iron acquisition in vivo and are important virulence determinants of this organism. Furthermore, due to their location and function they would make excellent ... ...surface accessibility and relative role of each in iron acquisition I constructed and analyzed isogenic mutants in the transferrin binding protein genes tbpA and tbpB. Genes from Neisseria meningitidis strain B16B6 ... ...and Tbp2; were detected in a lambda expression library and subcloned into plasmid vectors. Insertion mutations of the tbpA and tbpB genes were obtained by shuttle mutagenesis with an miniTn3 transposon carrying an erythromycin resistance determinant and by in vitro introduction of a kanamycin resistance determinant, respectively. Isogenic mutants in the tbpA and/or tbpB genes were obtained by gene replacement after transformation of N. meningitidis strain B16B6 with the appropriate mutated DNA fragments. The genetic construction of the isogenic mutants was verified by Southern blot analysis and the loss of Tbp1 and/or Tbp2 production was verified by western blot analysis with anti-Tbp1 and anti-Tbp2 monoclonal antibodies. Isogenic mutants deficient in only one of the transferrin receptor genes expressed a reduced but detectable transferrin... ...cells and total membranes but were incapable of utilizing transferrin iron for growth. The double mutant was deficient in transferrin binding and transferrin-iron utilization. The surface accessibility of both Tbps... ...of Tbp2 is exposed to the extracellular milieu. Using the cloned tbp genes of A. pleuropneumoniae and N. meningitidis chimeric gene sequences were constructed by the technique of Splicing by Overlap Extension (SOEing). It has been... ...regions from both the Tbp1 and Tbp2 of N. meningitidis and the Tbp1 of A. pleuropneumoniae to large regions within these proteins. Finally, by comparing these results with the current literature...

5/3,K/126 (Item 9 from file: 35) Links
Dissertation Abs Online

01221785 ORDER NO: AAD92-08847
NEISSERIA GONORRHOEAE IGA1 PROTEASE: CONSTRUCTION AND CHARACTERIZATION OF MUTANTS AND THE RESPONSE TO IRON LIMITATION

Author: SHOBERG, RUSSELL JAMES
Degree: PH.D.
Year: 1991
Corporate Source/Institution: MICHIGAN STATE UNIVERSITY (0128)
Source: Volume 5301B of Dissertations Abstracts International.
PAGE 92 . 262 PAGES
NEISSERIA GONORRHOEAE IGA1 PROTEASE: CONSTRUCTION AND CHARACTERIZATION OF MUTANTS AND THE RESPONSE TO IRON LIMITATION

The IgA1 proteases produced by Neisseria gonorrhoeae are theorized to be important virulence factors for the microbe. One of the objectives of this research was to address the question as to what other functions these enzymes might be

involved in. The gene encoding IgA1 protease (iga2) was cloned from N. gonorrhoeae GCM 740 in Escherichia coli. Following characterization, the iga2 locus was mutated at two sites by site-specific deletion and disruption and Iga$\sp-$ variants, GCM 740... ...parental strain. IgA1 protease-susceptible outer membrane proteins were demonstrated in E. coli and Actinobacillus pleuropneumoniae as well. The identities and functions of the susceptible proteins are undefined. A third objective...

5/3,K/127 (Item 10 from file: 35) Links
Dissertation Abs Online

01219285 ORDER NO: AAD92-14606
PURIFICATION, SEROLOGY AND PATHOGENIC ROLE OF THE 110 KILODALTON RTX HEMOLYSINS OF ACTINOBACILLUS PLEUROPNEUMONIAE

Author: MA, JIANNENG
Degree: PH.D.
Year: 1991
Corporate Source/Institution: VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY (0247)
Source: Volume 5212B of Dissertations Abstracts International.
PAGE 6213 . 137 PAGES
PURIFICATION, SEROLOGY AND PATHOGENIC ROLE OF THE 110 KILODALTON RTX HEMOLYSINS OF ACTINOBACILLUS PLEUROPNEUMONIAE

Actinobacillus pleuropneumoniae is the etiological agent of contagious swine pleuropneumonia, an economically important disease of the swine... ...contributing to pathogenesis. The objectives of this study were to investigate the immune response and virulence properties of the 110-kilodalton (110-KDa) hemolysins (hemolysin I (HlyI) and hemolysin II (HlyII)) of A. pleuropneumoniae. Several monoclonal antibodies (MAb) to the hemolysins were developed. An IgG$\sb1$ MAb (8C2) specific... ...to identify animals infected with or exposed to most, if not all, serotypes of A. pleuropneumoniae. Several nonhemolytic mutants of A. pleuropneumoniae serotype 5 were isolated following electroporation of the parent with an hemolysin gene whose open-reading-frame was disrupted with a kanamycin resistance gene. One mutant was characterized for phenotypic and pathogenic properties. Biochemical profiles, growth rate, capsule content, and lipopolysaccharide and whole cell protein electrophoretic profiles of the parent and one of the mutants were similar. The nonhemolytic mutant lacked both HlyI and HlyII proteins in culture supernatant and in whole cell lysates as determined by immunoblot analysis; extracellular and intracellular hemolytic and cytotoxic activity was also absent. The mutant was avirulent in mice and pigs at doses greater than 10 times the lethal dose of the parent. Unlike the parent, the nonhemolytic mutant failed to confer protection against lethal challenge in mice following immunization. Thus, one or both hemolysins are essential for virulence and immunoprotection in A. pleuropneumoniae serotype 5.

5/3,K/128 (Item 1 from file: 135) Links
NewsRx Weekly Reports

0000367122 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Researchers from Baylor College of Medicine, U.S., report recent findings

Life Science Weekly, November 21, 2006, p.313

DOCUMENT TYPE: Expanded Reporting LANGUAGE: English
RECORD TYPE: FULLTEXT

Word Count:

Study 1: Research findings, "The genome sequence of Mannheimia haemolytica A1: insights into virulence, natural competence, and Pasteurellaceae phylogeny," are discussed in a new report. According to recent research...

...Through genome annotation many features of interest were identified, including bacteriophages and genes related to virulence, natural competence, and transcriptional regulation. In addition to previously described virulence factors, M. haemolytica encodes adhesins, including the filamentous hemagglutinin FhaB and two trimeric autotransporter adhesins...

...and drug resistance were identified and are likely important for survival in the host and virulence. Analysis of the genome indicates that M. haemolytica is naturally competent, as genes for natural...

...loci and USS in other species in the family Pasteurellaceae indicates that M. haemolytica, Actinobacillus pleuropneumoniae, and Haemophilus ducreyi form a lineage distinct from other Pasteurellaceae," wrote J. Gioia and colleagues...

...study in the Journal of Bacteriology (The genome sequence of Mannheimia haemolytica A1: insights into virulence, natural competence, and Pasteurellaceae phylogeny. Journal of Bacteriology, 2006;188(20):7257-66).

For additional...

...vector supernatant produced by transient transfection."

"All single integrant revertant cell lines showed the identical mutations at both long terminal repeats," reported Laakso and Sutton. "This indicates that either RNAP or...

...tmc.edu.

Keywords: Houston, Texas, United States, Vector Development, Lentiviral Vector, Vaccine Vector, Vaccine Development, Gene Therapy, Enzymology, Immunology, Immunotherapy, Proteomics, Virology.

This article was prepared by Life Science Weekly editors...

DESCRIPTORS: A; Baylor College of Medicine; Drug Resistance; Enzymology; Gene Therapy; Houston; Immunology; Immunotherapy; Lentiviral Vector; Proteomics; Texas; Therapy; Treatment; U S ; United States; Vaccine...

5/3,K/129 (Item 1 from file: 357) Links
Fulltext available through: American Society for Microbiology custom link
USPTO Full Text Retrieval Options
Derwent Biotech Res.

0402348 DBA Accession No.: 2006-15844
Use of an Actinobacillus pleuropneumoniae multiple mutant as a vaccine that allows differentiation of vaccinated and infected animals multiple mutant Actinobacillus pleuropneumoniae and immunization in animal for live attenuated vaccine and serological discrimination

Author: MAAS A; JACOBSEN ID; MEENS J; GERLACH GF
Corporate Affiliate: Univ Vet Med Hannover Fdn
Corporate Source: Gerlach GF, Stiftung Tierarztl Hsch Hannover, Inst Mikrobiol, Zentrum Infekt Med, Bischofsholer Damm 15, D-30173 Hannover, Germany

Journal: INFECTION AND IMMUNITY (74, 7, 4124-4132) 2006
ISSN: 0019-9567
Language: English
Use of an Actinobacillus pleuropneumoniae multiple mutant as a vaccine that allows differentiation of vaccinated and infected animals multiple mutant Actinobacillus pleuropneumoniae and immunization in animal for live attenuated vaccine and serological discrimination
Abstract: AUTHOR ABSTRACT - Vaccination against Actinobacillus pleuropneumoniae is hampered by the lack of vaccines inducing reliable cross-serotype protection. In contrast, pigs... ...symptoms upon reinfection with any serotype. Thus, we set out to construct an attenuated A. pleuropneumoniae live vaccine allowing the differentiation of vaccinated from infected animals (the DIVA concept) by successively deleting virulence-associated genes. Based on an A. pleuropneumoniae serotype 2 prototype live negative marker vaccine (W. Tonpitak, N. Baltes, I. Hennig-Pauka, and... ...respiration and the ferric uptake regulator Fur were deleted, resulting in a highly attenuated sixfold mutant; this mutant was still able to colonize the lower respiratory tract and induced a detectable immune response. Upon a single aerosol application, this mutant provided significant protection from clinical symptoms upon heterologous infection with an antigenically distinct A. pleuropneumoniae serotype 9 challenge strain and allowed the serological discrimination between infected and vaccinated groups. (9...
Descriptors: multiple mutant Actinobacillus pleuropneumoniae, immunization in pig, immune response induction, forward, reverse DNA primer, gene deletion, plasmid transconjugation, aspartase assay, ELISA, virulence study, appl. live attenuated vaccine, serological discrimination, Actinobacillus pleuropneumoniae infection therapy, prevention bacterium mammal animal hybridization DNA amplification enzyme analysis immunoassay DNA sequence (25...
Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral)

5/3,K/130 (Item 2 from file: 357) Links
Fulltext available through: ScienceDirect
Derwent Biotech Res.

0400259 DBA Accession No.: 2006-13755 PATENT
Novel attenuated streptococcal bacterium comprising functional mutation in guaA gene, in which functional mutation attenuating bacterium, useful for preparing immunogenic composition or vaccine against bacterium attenuated bacterium production via gene mutation for use in vaccine and disease therapy

Author: BOWERSOCK T L; FULLER T E; GODBEE T E; KLEIN L K; LOWERY D E; MARTIN S ; WILSON T L
Patent Assignee: PHARMACIA and UPJOHN CO LLC 2006
Patent Number: WO 200648757 Patent Date: 20060511 WPI Accession No.: 2006-353015 (200636)
Priority Application Number: US 625402 Application Date: 20041105
National Application Number: WO 2005IB3333 Application Date: 20051025
Language: English
Novel attenuated streptococcal bacterium comprising functional mutation in guaA gene, in which functional mutation attenuating bacterium, useful for preparing immunogenic composition or vaccine against bacterium attenuated bacterium production via gene mutation for use in vaccine and disease therapy
Abstract: DERWENT ABSTRACT: NOVELTY - An attenuated streptococcal bacterium (I) comprising a functional mutation in the guaA gene, where the functional mutation attenuating the bacterium, is new. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) an... ...composition or a vaccine (II) comprising (I); (2) producing (M1) (I), involves introducing a functional mutation in the guaA gene, where the functional mutation attenuates the bacteria; (3) an isolated polynucleotide (N1) comprising a polynucleotide sequence chosen from: (a... ...assaying potential agents for the ability to interfere with expression or activity of the guaA gene, or (b) measuring expression or activity of the virulence gene product of guaA, contacting the gene product in the measuring step with a test

compound, measuring expression or activity of the gene product in the presence of the test compound, and identifying the test compound as an antibacterial agent when expression or activity of the gene product is decreased in the presence of the test compound as compared to expression or activity in the absence of the test compound. BIOTECHNOLOGY - Preferred Bacterium: In (I), the functional mutation results in decreased gene expression, decreased biological activity of the gene product, expression of an inactive gene product, or its combination. The functional mutation results from deletion of all or portion of the gene, an insertion in the gene, one or more point mutations in the gene, or its combination. The guaA gene comprises a polynucleotide chosen from: (a) a polynucleotide sequence having SEQ ID No. 1 or... ...type II, swine influenza virus, Erysipelothrix rhusiopathiae, Lawsonia intracellularis, Haemophilus parasuis, Bordetella bronchiseptica and Actinobacillus pleuropneumoniae. Preferred Method: In (M1), the functional mutation results from deletion of all or portion of the gene, an insertion in the gene, one or more point mutations in the gene, or within regulatory sequences or genes, or its combination. Preferred Polynucleotide: (N1) is DNA. Preferred ... ...against the bacterium. (A1) is useful for identifying an attenuated streptococcal bacterium comprising a functional mutation in the guaA gene, which involves contacting the bacterium or an extract of the bacterium with (A1), and detecting...
Descriptors: attenuated Streptococcus suis, Streptococcus uberis prep., guiaA gene mutation, vector-mediated gene transfer expression in host cell, recombinant protein, monoclonal antibody, appl. immunogenic composition, recombinant vaccine, bacterium...
Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral...

5/3,K/131 (Item 3 from file: 357) Links
Fulltext available through: ScienceDirect
Derwent Biotech Res.

0400258 DBA Accession No.: 2006-13754 PATENT
Novel attenuated streptococcal bacterium comprising functional mutation in virulence genes e.g. gtfA and guaB, in which functional mutation attenuating bacterium, useful for preparing immunogenic composition or vaccine against bacterium attenuated bacterium production via virulence gene mutation for vaccine and disease therapy

Author: FULLER T E; WILSON T L; MARTIN S; KLEIN L K
Patent Assignee: PHARMACIA and UPJOHN CO LLC 2006
Patent Number: WO 200648753 Patent Date: 20060511 WPI Accession No.: 2006-353012 (200636)
Priority Application Number: US 625533 Application Date: 20041105
National Application Number: WO 2005IB3324 Application Date: 20051024
Language: English
Novel attenuated streptococcal bacterium comprising functional mutation in virulence genes e.g. gtfA and guaB, in which functional mutation attenuating bacterium, useful for preparing immunogenic composition or vaccine against bacterium attenuated bacterium production via virulence gene mutation for vaccine and disease therapy
Abstract: DERWENT ABSTRACT: NOVELTY - An attenuated streptococcal bacterium (I) comprising a functional mutation in one or more virulence genes such as gtfA, guaB, lin0523, manM, purA, purD, scrB, scrR, SMU.61, spr1018, spyM3-0908, treR, sp0843, endoD, neuB, pgdA, glnQ and nadR, where the functional mutation attenuating the bacterium, is new. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) an immunogenic composition or vaccine (II) comprising (I); (2) producing (M1) (I) involves introducing a functional mutation in one or more genes chosen from gtfA, guaB, lin0523, manM, purA, purD, scrB, scrR... ...61, spr1018, spyM3-0908, treR, sp0843, endoD, neuB, pgdA, glnQ and nadR, where the functional mutation attenuates the bacteria; (3) an isolated polynucleotide (N1) comprising a polynucleotide sequence chosen from (a... ...agents for the ability to interfere with expression or activity of one or more streptococcal gene products chosen from any gene products or polynucleotides as mentioned in (I). BIOTECHNOLOGY - Preferred Bacterium: In (I), the functional mutation results in one or more of decreased gene expression, decreased biological activity of the gene product and/or expression of

an inactive gene product. The functional mutation results from one or more of deletion of all or portion of the gene, an insertion in the gene and/or one or more point mutations in the gene. The virulence gene comprises a polynucleotide chosen from: (a) a polynucleotide sequence having SEQ ID No. 1-23... ...Salmonella cholerasuis, S.typhimurium, Erysipelothrix rhusiopathiae, Lawsonia intracellularis, Haemophilus parasuis, Bordetella bronchiseptica, Mycoplasma hyopneumoniae, Actinobacillus pleuropneumoniae, Escherichia coli, Pasteurella multocida and Clostridium perfringens type A and type C. Preferred Method: In (M1), the functional mutation results in one or more of decreased gene expression, decreased biological activity of the gene product, expression of an inactive gene product, or the functional mutation results from an insertion in the gene or from one or more point mutations in the gene or within regulatory sequences or genes. Preferred Polynucleotide: (N1) is DNA. ACTIVITY - Antibacterial. No supporting... ...against the bacterium. (A1) is useful for identifying an attenuated streptococcal bacterium comprising a functional mutation in one or more virulence genes such as gtfA, guaB, lin0523, manM, purA, purD, scrB, scrR, SMU.61, spr1018, spyM3...
Descriptors: attenuated Streptococcus suis prep., virulence gtfA, guaB, lin0523, manM, purA, purD, scrB, scrR, SMU.61, spr1018, spyM3-0908, treR, sp0843, endoD, neuB, pgdA, glnQ, nadR gene mutation, vector-mediated gene transfer expression in host cell, monoclonal antibody, appl. immunogenic composition, recombinant vaccine, bacterium infection prevention...
Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral...

5/3,K/132 (Item 4 from file: 357) Links
Fulltext available through: ScienceDirect
Derwent Biotech Res.

0346119 DBA Accession No.: 2004-18411 PATENT
New attenuated strain of a bacteria that comprises altered DNA adenine methylase activity, useful for eliciting an immune response in an individual or for preparing live, attenuated bacterial vaccines genetically engineered bacterium strain for use in recombinant vaccine production

Author: LAWRENCE M L; PAULSEN D B; SCRUGGS D W
Patent Assignee: UNIV MISSISSIPPI STATE 2004
Patent Number: WO 200464776 Patent Date: 20040805 WPI Accession No.: 2004-562083 (200454)
Priority Application Number: US 439796 Application Date: 20030114
National Application Number: WO 2004US740 Application Date: 20040114
Language: English
Abstract: ...activity reduces or eliminates Dam activity. It is obtained by a deletion in a dam gene, by an increase in expression of Dam, by an artificially engineered change in a genome... ...cholerae, Yersinia Spp. including Yersinia pseudotuberculosis, Neisseria meningitidis, Porphyromonas gingivalis, Legionella pneumophila, Haemophilus somnus, Actinobacillus pleuropneumoniae, Pasteurella multocida, Mannheimia haemolytica, Bordetella, Treponema, Haemophilus somnus, Actinobacillus suis or Haemophilus parasuis. The change... ...the bacteria's genome is a change selected from a deletion, an insertion and a mutation of the native sequence. The heterologous nucleotide is operatively inserted into a plasmid and expresses... ...or an S. pullorum. Alternatively, the attenuated strain of the bacteria comprises a cloned dam gene capable of altered Dam activity such that the bacteria are attenuated and suitable for use... ...Dam expression and the increased Dam expression is obtained by control of the cloned dam gene by a promoter. The promoter is selected from a lac promoter, tac promoter, araBAD promoter... ...comprising a live bacteria comprising altered DNA adenine methylase activity, where the altered activity reduces virulence relative to the bacteria with wild-type Dam activity. The Dam activity is altered by a heterologous nucleotide, or by a mutation in the bacteria's genome which mutation alters a gene involved in expressing Dam in a manner selected from reduced expression, no expression, and overexpression ... ...the composition comprises a pharmaceutical carrier and a bacteria comprising a genome characterized by a mutation altering Dam activity such

that the bacteria is attenuated; and (b) allowing the composition to... ...to generate an immune response. Producing an attenuated live vaccine comprises: (a) cloning a dam gene of a bacterial species into a plasmid, the plasma comprising a promoter capable of controlling the expression of the dam gene; and (b) introducing the plasmid to a wild type of the bacteria species so as... ...and suitable for use as an attenuated live bacterial vaccine. The expression of the dam gene is overexpressed. The overexpression is obtained by control of the cloned dam gene by the promoter mentioned above. The plasmid is stabilized by treating a mutation in a chromosome of the bacteria, the mutation being lethal to the bacteria under predetermined conditions. Alternatively, producing an attenuated live vaccine comprises: (a) providing a pathogenic bacteria having a dam gene and a chromosomal promoter for the dam gene ; and (b) altering the chromosomal promoter for the dam gene, where the altered promoter of the dam gene causes altered expression of Dam by the pathogenic bacteria such that the pathogenic bacteria are... ...and suitable for use as an attenuated live bacterial vaccine. The expression of the dam gene is overexpressed. Altering of the promoter comprises replacement of the promoter cited above. Alternatively, the method comprises providing a pathogenic bacteria having a native dam gene, causing a genetic alteration affecting the dam gene, where the alteration of the dam gene causes altered expression of Dam by the pathogenic bacteria such that the pathogenic bacteria are... ...use as an attenuated live bacterial vaccine. The genetic alteration comprises replacing the native dam gene of the pathogenic bacteria with a different dam gene, or causing a mutation of the native dam gene of the pathogenic bacteria. The mutation of the native dam gene comprises using a cloned native dam gene of the pathogenic bacteria and mutating the native dam gene by homologous recombination, transposon mutagenesis and site directed mutagenesis. The genetic alteration affecting the dam gene comprises causing a mutation in at least one gene other than the dam gene, the at least one gene being upstream or downstream of the dam gene and capable of affecting Dam production or activity. The altered Dam expression comprises altered Dam...
Descriptors: ...Shigella Spp., Vibrio cholerae, Yersinia pseudotuberculosis, Neisseria meningitidis, Porphyromonas gingivalis, Legionella pneumophila, Haemophilus somnus, Actinobacillus pleuropneumoniae, Pasteurella multocida, Mannheimia haemolytica, Bordetella, Treponema sp., Actinobacillus suis, Haemophilus parasuis, DNA-adenine-methylaseact. alteration...
Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral)

5/3,K/133 (Item 5 from file: 357) Links
Fulltext available through: ScienceDirect
Derwent Biotech Res.

0344935 DBA Accession No.: 2004-17227 PATENT
New attenuated Actinobacillus pleuropneumoniae bacterium having a mutation in a gene required for bacterial virulence, useful for preparing a medicament for treating or preventing Actinobacillus pleuropneumoniae infection recombinant vaccine preparation useful for pleuropneumonia infection therapy

Author: KROLL J S; LANGFORD P R; BOSSE J; BEDDEK A; RYCROFT A; SHEEHAN B
Patent Assignee: IMPERIAL COLLEGE INNOVATIONS LTD 2004
Patent Number: WO 200452925 Patent Date: 20040624 WPI Accession No.: 2004-468813 (200444)
Priority Application Number: GB 200228691 Application Date: 20021209
National Application Number: WO 2003GB5349 Application Date: 20031208
Language: English
New attenuated Actinobacillus pleuropneumoniae bacterium having a mutation in a gene required for bacterial virulence, useful for preparing a medicament for treating or preventing Actinobacillus pleuropneumoniae infection recombinant vaccine preparation useful for pleuropneumonia infection therapy
Abstract: DERWENT ABSTRACT: NOVELTY - An attenuated Actinobacillus pleuropneumoniae bacterium which has a mutation in a gene required for bacterial virulence and comprising a nucleotide sequence having 47-1264 bp, is new. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) a composition containing the

attenuated A. pleuropneumoniae bacterium; (2) an isolated polynucleotide encoding a gene product which is naturally involved in (e.g. required for) the virulence of A. pleuropneumoniae or a gene product which is not naturally found in A. pleuropneumoniae, but whose expression is capable of modulating (e.g. of decreasing) the virulence of the bacterium by its direct interaction with A. pleuropneumoniae virulence genes or gene products; (3) a vector comprising the polynucleotide; (4) a host cell containing the polynucleotide or... ...identifying an anti-bacterial agent which is capable of modulating the function of an A. pleuropneumoniae virulence gene, or of a homologous gene in a related species; (7) a method of modulating the transcription of such virulence genes; and (8) a method of treating an animal suffering from a Pasteurellaceae (e.g. an A. pleuropneumoniae) infection.
BIOTECHNOLOGY - Preferred Bacterium: The attenuated Actinobacillus pleuropneumoniae bacterium has mutations occurring within a single gene or within different genes. Preferred Composition: The composition comprises different attenuated A. pleuropneumoniae bacteria, having different mutations in the same virulence gene and/or bacteria having similar, or different, mutations in two or more different genes or an anti-bacterial agent. The composition further comprises...
...Identifying an anti-bacterial agent which is capable of modulating the function of an A. pleuropneumoniae virulence gene, or of a homologous gene in a related species comprises screening potential agents for their ability to interfere with the expression and/or biological activity in a host bacterium of the gene products. Modulating the transcription of such virulence genes comprises using oligonucleotide-directed triplet helix formation. Treating an animal suffering from a Pasteurellaceae (e.g. an A. pleuropneumoniae) infection comprises administering the anti-bacterial agent or composition. ACTIVITY - Antibacterial. No biological data given. MECHANISM OF ACTION - Vaccine. USE - The attenuated Actinobacillus pleuropneumoniae bacterium is useful for preparing a medicament for treating or preventing infection caused by Actinobacillus pleuropneumoniae, e.g., prophylactic protection of swine against porcine pleuropneumonia (claimed). EXAMPLE - No relevant examples given...
Descriptors: Actinobacillus pleuropneumoniae, attenuation, vir gene, modulator identification, vector-mediated gene transfer, expression in host cell, antibody prep., triple helix formation, appl., recombinant vaccine, prep., Actinobacillus pleuropneumoniae infection, therapy, gene therapy bacterium antibacterial DNA sequence (23, 36)
Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral... ...THERAPEUTICS-Gene Therapy

5/3,K/134 (Item 6 from file: 357) Links
Fulltext available through: ScienceDirect
Derwent Biotech Res.

0326561 DBA Accession No.: 2003-27702 PATENT
New attenuated mutant of a Gram-negative bacteria, useful for the production of immunogenic or vaccine compositions for the prevention of bacterial infections, particularly Gram negative bacteria recombinant bacterium for use in disease therapy and vaccine

Author: CROOKE H R; SHEA J E; FELDMAN R G; GOUTEBROZE S G; LE GROS F
Patent Assignee: MERIAL 2003
Patent Number: EP 1350796 Patent Date: 20031008 WPI Accession No.: 2003-781146 (200374)
Priority Application Number: EP 2002290861 Application Date: 20020405
National Application Number: EP 2002290861 Application Date: 20020405
Language: English
New attenuated mutant of a Gram-negative bacteria, useful for the production of immunogenic or vaccine compositions for...
Abstract: DERWENT ABSTRACT: NOVELTY - A mutant (I) of a Gram negative bacterium comprises a mutation in a nucleotide sequence which codes for a polypeptide having an identity which is equal... ...by any of 29 fully defined sequences of 267-2832, given in the specification, the mutation resulting in attenuated virulence of the bacterium. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

following: (1) an... ...267-2832, given in the specification, or an antibody specific to the polypeptide. BIOTECHNOLOGY - Preferred Mutant: The bacterium of the mutant is a Pasteurellaceae, and/or is chosen from Pasteurella multocida, P. haemolytica, P. anatipestifer and Actinobacillus pleuropneumoniae, preferably Pasteurella multocida. The mutation is a deletion in the nucleotide sequence, or an insertion into it or replacement of... ...Preferred Vaccine: The vaccine further comprises an adjuvant. ACTIVITY - Antibacterial. Cultures of the Pasteurella multocida mutants were grown for inoculation of turkeys by mixing 20 microl of each of the glycerol stocks of the mutants obtained with 100 microl of BHI culture medium, supplemented with 50 microg/ml of kanamycin... ...after inoculation 1 ml blood samples were taken from 3 of the 5 turkeys. Pasteurella mutants that were present were identified by PCR amplification of the signature tags present in DNA... ...the amplified PCR products against dot blots loaded with DNA encoding the signature tags. These mutants were considered as potentially attenuated in virulence. This attenuation was confirmed by screening for a lack of mortality after single infections of the potentially mutants in turkeys. MECHANISM OF ACTION - Vaccine. USE - The attenuated mutant is useful for the production of immunogenic or vaccine compositions for the prevention of bacterial...
Descriptors: mutant Gram-neg. Pasteurella multocida, antibody, immunogen composition, polymerase chain reaction, appl. bacterium infection recombinant vaccine...
Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral)

5/3,K/135 (Item 7 from file: 357) Links
Fulltext available through: ScienceDirect
Derwent Biotech Res.

0303149 DBA Accession No.: 2003-04934 PATENT
New mutant gram-negative bacteria, useful as vaccines and for identifying new anti-bacterial agents that target virulence genes and their products vector-mediated gene transfer and expression in host cell for recombinant vaccine

Author: LOWERY D E; FULLER T E; KENNEDY M J
Patent Assignee: PHARMACIA and UPJOHN CO 2002
Patent Number: WO 200275507 Patent Date: 20020926 WPI Accession No.: 2002-740868 (200280)
Priority Application Number: US 809665 Application Date: 20010315
National Application Number: WO 2002US1971 Application Date: 20020117
Language: English
New mutant gram-negative bacteria, useful as vaccines and for identifying new anti-bacterial agents that target virulence genes and their products vector-mediated gene transfer and expression in host cell for recombinant vaccine
Abstract: DERWENT ABSTRACT: NOVELTY - A gram-negative bacteria comprising a mutation in a gene consisting of any one of 35 fully defined nucleotide sequences of 64-8498 bp given in the specification, or their species homologs, where the mutation results in decreased activity of a gene product encoded by the mutated gene, is new. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an attenuated Pasteurellaceae bacteria comprising a mutation in a gene consisting of any one of 73 fully defined nucleotide sequences of 33-9814 bp given in the specification, or their species homologs, where the mutation resulting in decreased activity of a gene product encoded by the mutated gene; (2) an immunogenic composition comprising the bacteria cited above; (3) a vaccine composition comprising the immunogenic composition and a carrier; (4) producing a gram-negative bacteria mutant or an attenuated Pasteurellaceae bacteria (5) a purified and isolated Pasteurellaceae polynucleotide comprising: (a) any... ...amino acids given in the specification; (6) a purified and isolated polynucleotide encoding a Pasteurellaceae virulence gene product, or its species homolog, comprises: (a) any one of 35 fully defined nucleotide sequences... ...comprising: (a) assaying potential agents for the ability to interfere with expression or activity of gene products consisting of any one of 69 fully defined sequences of 10-2110 amino acids... ...in the specification, and identifying an agent that interferes with

expression or activity of the gene products or measuring expression or activity of a gene product cited above; (b) contacting the gene product in (a) with a test compound; (c) measuring expression or activity of the gene product in the presence of the test compound; and (d) identifying the test compound as an antibacterial agent when expression or activity of the gene product is decreased in the presence of the test compound as compared to expression or... ...the absence of the test compound. BIOTECHNOLOGY - Preparation: The bacteria are produced by introducing a mutation in a gene consisting of any one of 73 fully defined nucleotide sequences of 33-9814 bp given in the specification, or their species homologs, where the mutation resulting in decreased activity of a gene product encoded by the mutated gene (claimed). Preferred Bacteria: The gram-negative bacteria or the attenuated Pasteurellaceae bacteria, where the mutation results in decreased expression of a gene product encoded by the mutated gene, in expression of an inactive gene product encoded by the mutated gene; or in deletion of all or part of the gene. The Pasteurellaceae bacteria are selected from the group of Pasteurella (Mannheimia) haemolytica, Pasteurella multocida, Actinobacillus pleuropneumoniae and Haemophilus somnus, preferably P. multocida or A. pleuropneumoniae. Preferred Vaccine: The vaccine further comprises an adjuvant. Preferred Polynucleotide: The polynucleotide encoding the polypeptide... ...human medicine or veterinary medicine, and for identifying new anti-bacterial agents that target the virulence genes and their products. ADMINISTRATION - Administration may be intravenous, intradermal, intramuscular, intramammary, intraperitoneal or subcutaneous... ...oral, sublingual, nasal, anal, or vaginal. No dosage given. EXAMPLE - A library of tagged-transposon mutants was constructed in parental vector pLOF/Km that has previously been demonstrated to be functional... ...Plasmid pLOF/Km was constructed as modification of suicide vector pGP704 and included a transposase gene under control of the Tac promoter as well as the mini-Tn10 transposable element encoding... ...transformants containing the tagged plasmid pTEF-1 was used in conjugative matings to generate transposon mutants of P. multocida and were grown on brain heart infusion media at 37 degrees C...
Descriptors: recombinant mutant Pasteurella haemolytica, Pasteurella multocida, Actinobacillus pleuropneumoniae, Haemophilus somnus construction, plasmid pTEF-1-mediated transposase, Tac promoter, mini-Tn10 transposable element, kanamycin-resistance gene transfer, expression in host cell, monoclonal antibody, polymerase chain reaction, appl. recombinant vaccine, Pasteurella sp...
Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral...

5/3,K/136 (Item 8 from file: 357) Links
Fulltext available through: ScienceDirect
Derwent Biotech Res.

0296258 DBA Accession No.: 2002-18105 PATENT
Novel isolated nucleic acid encoding nicotinamide phosphoribosyl transferase from V-factor independent bacterium, useful for constructing genetically defined recombinant Pasteurellaceae species recombinant vaccine production containing live attenuated recombinant Actinobacillus pleuropneumoniae

Author: MULKS M H; MARTIN P R; SHEA R J
Patent Assignee: UNIV MICHIGAN STATE 2002
Patent Number: WO 200238733 Patent Date: 20020516 WPI Accession No.: 2002-490072 (200252)
Priority Application Number: US 246950 Application Date: 20001110
National Application Number: WO 2001US46804 Application Date: 20011108
Language: English
...for constructing genetically defined recombinant Pasteurellaceae species recombinant vaccine production containing live attenuated recombinant Actinobacillus pleuropneumoniae
Abstract: ...comprises a 3307 base pair sequence (S1), given in the specification, where expression of the gene encoding the NadV is under control of a heterologous promoter; (2) a genetically defined recombinant Pasteurellaceae spp. (III) comprising a gene encoding NadV inserted into a genomic nucleic acid sequence of a

V-factor dependent Pasteurellaceae spp., where the gene encoding the NadV enables the recombinant Pasteurellaceae spp. to grow in media free of nicotinamide... ...host against a Pasteurellaceae spp., comprises a recombinant V-factor independent Pasteurellaceae spp. comprising a gene encoding NadV inserted into a genomic nucleic acid sequence of a V-factor dependent Pasteurellaceae spp. or strain, where the gene encoding the NadV disrupts expression of one or more genes encoded by the genomic nucleic... ...in the specification. WIDER DISCLOSURE - Also disclosed is a NadV from Haemophilus ducreyi and its mutants. BIOTECHNOLOGY - Preferred Nucleic Acid: In (I), the organism is a microorganism selected from Actinobacillus actinomycetemcomitans, A. lignieresii, A. pleuropneumoniae, A. suis, Deinococcus radiodurans, Haemophilus aphrophilus, H. ducreyi, H. haemoglobinophilus, H. influenzae, H. ovis, H ... ...H. ducreyi which is ATCC 27722. (I) is operably linked to a heterologous promoter. The gene encoding the NadV replaces a portion of a genomic nucleic acid sequence of the V... ...genes for aromatic amino acid biosynthesis, genes for isoleucine and valine biosynthesis, genes for a virulence factor or its combinations. The genomic nucleic acid sequence encodes a gene selected from ribA, ribB, ribH, aroA, ilvI, lktC, apxIV, or their combinations. Preferred Vaccine: (IV... ...genomic nucleic acid sequence in the Pasteurellaceae spp. is replaced or partially replaced with the gene encoding the NadV, which renders the Pasteurellaceae spp. capable of growing in media free of... ...recombinant in media free of NAD and NMN, where the recombinant Pasteurellaceae spp. comprises the gene encoding the NadV in place of the genomic nucleic acid sequence. (I) is useful for... ...V-factor dependent Pasteurellaceae spp. with (I) to produce a recombinant Pasteurellaceae spp., where the gene encoding the NadV renders the V-factor dependent Pasteurellaceae spp. V-factor independent, and growing... ...from V-factor dependent bacteria, preferably a recombinant bacteria of Pasteurellaceae family such as Actinobacillus pleuropneumoniae, for use in vaccines. ADMINISTRATION - (IV) is administered by intramuscular, intraperitoneal, intradermal, subcutaneous, intravenous, intra... ...antibiotic resistance for constructing recombinant bacteria. (I) efficiently produces recombinant bacteria. The use of nadV gene instead of a gene conferring antibiotic resistance as the selectable marker for isolating recombinant bacteria, enables the recombinant bacteria ... ...V-factor dependent bacteria. EXAMPLE - Cloning and sequence analysis of the nicotinamide phosphoribosyl transferase (nadV) gene from a V-factor independent strain of Haemophilus ducreyi was as follows. A recombinant V-factor independent Actinobacillus pleuropneumoniae (APP) was constructed by transforming the nadV gene into a V-factor dependent strain of APP. Escherichia coli XL 1-Blue MRF was used for propagation of the plasmid pUC18 and the E. coli-A. pleuropneumoniae shuttle vector, pGZRS18 as well as derivatives of these ...Luria-Bertani (LB) medium supplemented with ampicillin (100 micro-g/ml) for plasmid selection. A. pleuropneumoniae and H. influenzae KW20 Rd strains were grown on brain heart infusion (BHI) broth or... ...excising the bands and isolating the DNA. Plasmid DNA was isolated from E. coli, A. pleuropneumoniae, H. ducreyi, and H. influenzae. E. coli was transformed with plasmids, and plasmids were then... ...primers. DNA sequencing was performed. The open reading frame (ORF) predicted to encode the nadV gene was amplified using synthetic primers MM 199 (5'-GCCTGCAGAAAAATCTTTTGAATTATATAAACAAC-3' and MM 191 (5'-GCGTATTAACTGCAGATATCATAGCGTAGTGCG... ...into pUC18 to produce pCNAD9. The insert was then cloned into the E. coli-A. pleuropneumoniae shuttle vector pGZRS18 in both forward and reverse directions to produce pGZNAD9 and pGZNAD10, respectively... ...recombinant APP. Analysis of products was performed by high performance liquid chromatography (HPLC). The nadV gene was found to have a 3307 base pair sequence, given in the specification, and encoded...

Descriptors: recombinant Actinobacillus pleuropneumoniae prep., cloning, vector plasmid pGZNAD9 , plasmid pGZNAD10-mediated Haemophilus ducreyi nicotinamide-phosphoribosyltransferase gene transfer, expression in Escherichia coli, homologous recombination, appl. live attenuated recombinant vaccine bacterium enzyme EC...

Section: ...GENETIC TECHNIQUES and APPLICATIONS-Gene Expression Techniques and Analysis; DISEASE-Infectious Disease (non-viral)

5/3,K/137 (Item 9 from file: 357) Links
Fulltext available through: ScienceDirect

Derwent Biotech Res.

0222244 DBA Accession No.: 98-03841 PATENT
Vaccines containing avirulent, non-capsulated microorganism lacking DNA for capsule synthesis
- recombinant vaccine containing, e.g. Actinobacillus pleuropneumoniae or Cryptococcus neoformans, for protection of pigs against pleuropneumonia

Author: Inzana T J; Ward C
Corporate Source: Blacksburg, VA, USA.
Patent Assignee: Virginia-Tech.Intellectual-Prop. 1997
Patent Number: WO 9749416 Patent Date: 971231 WPI Accession No.: 98-076904 (9807)
Priority Application Number: US 673814 Application Date: 960627
National Application Number: WO 97US10236 Application Date: 970617
Language: English
- recombinant vaccine containing, e.g. Actinobacillus pleuropneumoniae or Cryptococcus neoformans, for protection of pigs against pleuropneumonia
Abstract: ...protect against diseases caused by fungi or bacteria in which the capsule is required for virulence but not for immunoprotection. Specified pathogens are Cryptococcus neoformans, Pasteurella multocida, Pasteurella haemolytica, Pseudomonas aeruginosa or particularly Actinobacillus pleuropneumoniae (AP), the causative agent of pleuropneumonia in pigs. In an embodiment, a DNA probe, specific for the cpxD gene of AP serotype 5A J45 was used to identify the DNA region involved in polysaccharide...
Descriptors: Actinobacillus pleuropneumoniae, Cryptococcus neoformans, Pasteurella multocida, Pasteurella haemolytica, Pseudomonas aeruginosa mutagenesis, capsule biosynth. gene deletion, attenuation, appl. recombinant vaccine bacterium yeast fungus (Vol.17, No.8)

5/3,K/138 (Item 1 from file: 266) Links
FEDRIP

00548497
Identifying No.: 0191147 Agency Code: AGRIC
Regulation of A. Pleuropneumoniae Apx1 Hemolysin and its Role in Disease

comparative analysis
Associate Investigators: West, S. E.
Performing Org.: UNIV OF WISCONSIN, PATHOBIOLOGICAL SCIENCES , MADISON , WISCONSIN 53706
Regulation of A. Pleuropneumoniae Apx1 Hemolysin and its Role in Disease
Summary: Actinobacillus pleuropneumoniae (Apl) causes a severe, contagious, and often fatal respiratory tract disease of pigs, known as... ...and to identify the environmental factor(s) which induce or repress its production. Using transposon mutagenesis, we have identified several genes that affect production of the ApxI hemolysin. These genes are... ...nitrate to nitrite and include napA, fdxGH, tatA, and moaA. We have also found that mutations in the
genes encoding hlyX (fnr), fur, dnaJ, an anti-sigma factor, and in two... ...the signals associated with this complex metabolic process. We hypothesize that a primary (unidentified) regulatory gene responds to environmental signals produced as a result of the reduction of nitrate to nitrite by the NapA periplasmic nitrate reductase to activate or repress ApxI production. As, mutations in hlyX and fur do not abolish ApxI production but do affect the levels of... ...stages of disease at which ApxI is produced, (iii) Determine whether the ApxI primary regulatory mutant(s) are reduced in virulence, (iv) Isolate a mutant of the primary ApxI regulatory gene that controls ApxI expression in response to an unidentified signal generated as a result of the napA mutation. To identify specific signals which affect production of ApxI, we will utilize a fusion of the apxICABD promoter to a reporter gene, such as lacZ (beta-galactosidase), to measure
apxICABD expression under various growth conditions. The apxICABD... ...use a recently developed technique called population transcript accumulation. To determine

whether the primary regulatory gene, hlyX, fur, or napA mutants are altered in their ability to cause disease, we have chosen to use an aerosol...
Descriptors: pleuropneumonia; gene regulation; nitrate reduction; virulence; swine; actinobacillus; hemolysins; vaccines; animal diseases; bacterial diseases (animals); molecular biology; disease control; chronic infection; disease carriers; pathogenesis; environmental factors; transposons; gene environment interaction; mutants; gene analysis; genetic regulation; reporter genes; promoters (genetics); rna m; mutagenesis; quantitative analysis; bacterial genetics; dna sequences; comparative analysis

5/3,K/139 (Item 2 from file: 266) Links
FEDRIP

00547633
Identifying No.: 0189926 Agency Code: AGRIC
Requirement for branched-chain amino acid biosynthesis in Actinobacillus pleuropneumoniae disease

anti bacterial agents
Associate Investigators: Mulks, M. H.
Performing Org.: MICHIGAN STATE UNIV, MICROBIOLOGY & MOLECULAR GENETICS , EAST LANSING , MICHIGAN 48824
Requirement for branched-chain amino acid biosynthesis in Actinobacillus pleuropneumoniae disease
Summary: ...genes and their products play in the pathogenesis of respiratory infections; 3) develop strains with mutations in these pathways for use as live avirulent vaccines; and 4)
identify or design inhibitors... ...aims of the current proposal are: 1) to determine whether ilvI is critical for A. pleuropneumoniae survival and infection of pigs; and 2)to analyze the regulation of expression of ilvI in A. pleuropneumoniae. The long term objectives of our research program are to understand the pathogenesis of bacterial... ...We have developed a genetic system to identify genes of the swine respiratory pathogen Actinobacillus pleuropneumoniae (APP) that are
specifically induced during infection of the natural host. Among the 42 in... ...survival and infection in pigs. To accomplish this aim, we will
utilize the APP ilvI gene that we have cloned and sequenced and the targeted mutagenesis system we have developed to construct deletion-disruption mutants of the ilvI gene in the APP chromosome. These mutants will be evaluated for attenuation in an experimental infection model in swine. If these mutants are attenuated, future studies will examine their potential use as live vaccines against APP infection. In Aim 2, we will examine the regulation of expression of the ilvI gene in response to environmental conditions, such as nutrient deprivation and oxidative stress, that APP would... ...lung. We will begin to identify regulatory molecules that affect the

expression of the ilvI gene as well as other APP ivi genes. One potential regulator is LRP, or leucine-responsive... ...and many other genes in E. coli. We have shown that APP has a lrp gene that is highly homologous to that of E. coli, and propose experiments to analyze the effect of LRP on APP ilvI gene expression. While we will conduct these studies using the tools we have developed to study A. pleuropneumoniae, and will utilize these to develop improved vaccines against this important swine pathogen, the results... ...variety of hosts. The underlying
hypothesis of this research is that bacterial respiratory pathogens with mutations in the ILV biosynthetic pathway will be attenuated and therefore potentially useful as live vaccines...
Descriptors: ...diseases (animals); pathogenesis; infection; biochemical mechanisms; pathways; biochemistry; survival; bacterial genetics; strains (genetics); live vaccines; virulence; mutants; inhibitors; antibiotics; product development; gene expression; gene regulation; gene analysis; host pathogen relations; leucine; isoleucine; valine; gene cloning; dna sequences; mutagenesis; environmental factors; nutrient deficiency; oxidative stress; gene environment interaction; anti bacterial agents

5/3,K/140 (Item 1 from file: 149) Links
TGG Health&Wellness DB(SM)

02911678 Supplier Number: 65644862 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Iron Loading and Disease Surveillance.

Weinberg, Eugene D.
Emerging Infectious Diseases , 5 , 3 , 50
May ,
1999
Publication Format: Magazine/Journal
ISSN: 1080-6040
Language: English
Record Type: Fulltext Target Audience: Academic; Professional
Word Count: 3919 Line Count: 00414

...Determinant of Host Range and of Tissue Localization
The number of infectious disease agents whose virulence is enhanced by iron continues to increase (Table 2). To obtain host iron, successful pathogens...

...as chimpanzees, gorillas, and orangutans, but not from (ILLEGIBLE TEXT) nonprimate mammals (10,11). Actinobacillus pleuropneumoniae synthesizes a (ILLEGIBLE TEXT) specific transferrin receptor and causes pneumonia only in hogs (12).
Each...

...siderophilin binding sites or form siderophores. For instance, unlike the wild (ILLEGIBLE TEXT) siderophore-minus mutants of Salmonella Typhimurium cannot grow in (ILLEGIBLE TEXT) compartments of the host. However, both the wild and mutant strains replicate (ILLEGIBLE TEXT) host cells (19). Possible sources of intracellular iron are heme, iron...

...pathogens, Francisella tularensis and Legionella pneumophila, (ILLEGIBLE TEXT) host intracellular niche is obligatory. Like the mutant strain of S. Typhimurium, (ILLEGIBLE TEXT) organisms are unable to access iron in extracellular fluids...

...and other nutrients in vivo. In: Roth JA, Bolin CA, Brogdon KA, Wannemuehler MJ, editors. Virulence mechanis bacterial pathogens. Washington: American Society for Microbiology; 199 79-94.
(9.) Ogunnariwo JA, Cheng...
...61.
(23.) Gomes MS, Appelberg R. Evidence for a link between iron metabolism an Nrampl gene function in innate resistance against Mycobacterium avium. Immunology 1998;95:165-8.
(24.) Jiang X...

? d s

Set	Items	Description
S1	11013	S PLEUROPNEUMONIAE
S2	1364	S S1 AND VIRULENCE
S3	451	S S2 AND (MUTANT OR MUTATION OR MUTA?)
S4	306	S S3 AND GENE
S5	140	RD (unique items)